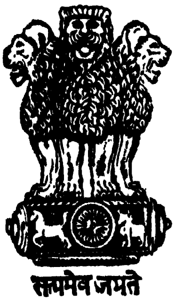

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INDIAN CENTRAL JUTE COMMITTEE

Bulletin No. 1.

Vol. III.

APRIL, 1940.

Published by the Secretary, Indian Central Jute Committee,
1, Council House Street, Calcutta, and
Printed by J. N. Ghosh, at The Star Printing Works,
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CONTENTS

PAGE.

Indian Prices During March 1
Production and Consumption of Jute 3
Jute Sowing: 1940-41 Season 4
Indian Chamber on Govt. Export Restriction ... 5
Export to Japan—Jute Goods and Coir 6
Abnormal Fall in Jute Prices 6
Cotton-Jute Fabric 7
Flax Famine 8
Fibre-Agaves 10
Cordage Fibre Markets 15
Cordage Industry in Canada 17
Jute, Flax and Hemp Trades: A Review 18
U. S. A. 24
Competition which Jute may meet in America ... 27
Conditions in Argentine 32
Jute and Hemp Bags: Production and Use in Chile ... 35
Sugar Bags: Price Control in Cuba 35
Sisal Twine and Burlap: Shortage in Uruguay ... 36
Export and Import Restrictions 37
Free Importation into Turkey 38
Freight Rate on Raw Jute 38
Jute Markets Overseas 39
Dundee Prices 41
Sandbags 42
"Green" Flax 42
Extraction of Fibres from Sisal Leaves: A New Process... 43
Jute Stocks and Production of Goods: Position in Southern Europe 44
Germany 47
Jute Trade in East Africa 48

PAGE.
Cotton *Vs.* Jute 49
Some Textile Fibres 50
Hemp in Italy 52
Production of Flax in Denmark 53
African Sisal 53
Philippine Hemp Exports 54
Netherlands East Indies Gunny Bags 54
Manufacture of Gunny Bags in Thailand (Siam) ... 55
Packing Material: New Factory in Java 56
Trade Notes 57
Monthly Notes on Progress of Schemes 62

Indian Prices During March

STEADY DECLINE

LOOSE JUTE

THE general tendency of the loose jute market during March has been for prices to decline steadily with only mild reactions. Sellers of Old Crop have been pressing, particularly for low assortment, but mills have taken little interest and only small lots have changed hands.

The month opened with Indian Jat Bottom marks quoted at Rs. 13/- but with lack of buying interest the price eased to Rs. 11/- by the 14th March when a small line was reported done by mills. At the end of the period sellers were offering at Rs. 9/8/- but there were no buyers.

Reported new crop sowings from all areas indicate that they are considerably higher than last year. The weather has been very favourable and the condition of the young plants is said to be excellent. It is generally considered that next season's crop will be a very large one and prices have dropped with fair steadiness owing to pressure to sell. Moderate forward business was done with 1940-41, mainly by speculators covering previous sales to mills.

Rates opened at Rs. 12/8/- for Indian Jat Middles but over the month eased to Rs. 10/8/- for July/September shipment.

Quotations on 30th March, 1940.

		Old Crop	
(Indian)		Jat	District
		Rs. as. p.	Rs. as. p.
Middle	...	11 0 0	10 4 0
Bottom	...	9 8 0	8 8 0
		New Crop	
(Indian)		Jat	District
Middle	...	10 12 0	10 4 0
Bottom	...	9 12 0	9 4 0

JUTE FABRICS

The principal feature in this market resulted from the decision of the Indian Jute Mills Association to reduce working hours from 60 to 54 per week as from April 8. This caused a setback in values in a market in which there were more sellers than buyers. An order placed by Government for a fairly large quantity of hessian cloth revived interest about the middle of the month but this was only temporary and towards the end rates again declined through lack of further buying interest. It is reported that overseas consumers bought moderately for near positions but this demand was easily met by second-hand sellers. Mills have shown little interest to sell at the present levels for forward positions.

Hessian 40″-8 oz. for the ready position opened at Rs. 14/5/- but by 14th March had declined to Rs. 12/5/-. With placing of the Government order however the price recovered and on 21st March was Rs. 13/4/- but closed at the end of the month at Rs. 12/10/-.

On 30th March prices ruling in the jute fabrics market were :—

		Near		Forward	
		Rs.	as.	Rs.	as.
Hessian	40″-8 oz. ...	12	10	12	8
,,	40″-10½ oz. ...	15	4	15	4
Hy. Cee Bags	40×28 ...	34	8	34	8
A. Twills	44×26½ ...	46	0	45	8
B. Twills	44×26½ ...	37	8	37	0
Australian Cornsacks	41×23 ...	37	8	37	8

PRODUCTION AND CONSUMPTION OF JUTE

RAW PRODUCE

According to the *Indian Trade Journal* jute arrivals into Calcutta and mills outside the Calcutta trade block (excluding road arrivals and arrivals into mills by boats) were as follows :—

From 1st July, 1939 to 6th April, 1940	9,229,000 bales.
From 1st July, 1938 to 6th April, 1939	8,418,000 bales.

MANUFACTURED GOODS

Manufactures of jute goods during March, 1940 by the mills reporting to the Indian Jute Mills Association are given below :—

Sacking Bags (in 1,000s)	58,839	or	58,596	tons
Hessian Bags (,,)	69,529	,,	15,443	,,
Sacking Cloth (in 1,000 yds.)	6,549	,,	2,779	,,
Hessian Cloth (,,)	142,147	,,	37,693	,,
Others			4,097	,,
Total			118,608	,,
Total during February, 1940 ...			111,593	,,

The following are the **stocks of manufactured goods** (cloth and bags) as reported to the Indian Jute Mills Association by its members :—

	End of Mar.		End of Feb.	
	1940	1939	1940	1939
Sackings (lacs of yds.)	1,760	1,275	1,405	1,318
(tons)	76,323	...	60,528	...
Hessians (lacs of yds.)	3,405	4,937	3,526	4,980
(tons)	82,806	...	84,754	...

(The publication in the "Bulletin" of the usual monthly **export figures of raw jute and jute goods from Calcutta** is suspended until further notice.)

JUTE SOWING

1940-41 SEASON

THE following table compiled from the report of Messrs. Sinclair Murray & Co., Ltd., shows jute sowings upto March 30:—

Centre.	1940-41	1939-40	% increase
Narayanganj	14 as	8 as	75
Chandpur	13 „	7 „	86
Hajiganj	12 „	6 „	100
Chaumuhani ...	12 „	6 „	100
Ashuganj	17 „	7 „	143
Akhaura	14 „	12 „	17
Niklidampara	17 „	4·5 „	278
Sarisabari	12 „	6 „	100
Mymensingh	10 „	5 „	100
Serajganj	10 „	4·5 „	122
Bhangoora	10 „	6: „	67

Sowing up to now has been far in excess of the corresponding sowing of last season. Weather has been favourable on the whole and the condition of plants is satisfactory.

EXPORT OF JUTE

INDIAN CHAMBER ON GOVT. RESTRICTION

THE Committee of the Indian Chamber of Commerce, Calcutta, have addressed a detailed communication to the Government of India expressing concern at the recent notification issued by the Government prohibiting the export of jute, jute manufactures and rubber to certain countries unless a certificate is produced to the effect that foreign exchange representing the fair market value of the goods at the port of embarkation has been or will be disposed of in a manner and within a period approved by the Reserve Bank of India. While the Committee appreciate the anxiety of the Government to prevent illegitimate transfer of foreign exchange or to preserve as much foreign exchange as possible in certain currencies for war purposes, they point out that the repercussions of such methods of exchange control would be greatly deterimental to the export trade of the country. The new regulation introduced by the Government, the Committee feel, will deprive the Indian exporter of the benefit of the difference between the official and the free cross rate. Even on a rough basis of the balance of trade between India and countries not linked to sterling being about Rs. 30 crores per annum, India would lose more than Rs. 2½ crores in this manner. The Committee state that instead of improving the export trade of the country during the war, the exporters will be made to lose even their existing foreign markets to the detriment of the trade position of the country.

EXPORT TO JAPAN

JUTE GOODS AND COIR

EXPORT of coir yarn and jute gunny cloth by sea from British India to Japan during the 9 months, (April-December), are as follows:—

——	1937	1938	1939
Gunny Cloth (in 1000 yds.)	1,163	2,547	669
Value in Rs. ...	116,846	239,811	76,859
Coir Yarn (cwts.) ...	10,407	5,832	5,973
Value in Rs. ...	99,372	55,143	59,124

Abnormal Fall In Jute Prices

GOVT. URGED TO TAKE NECESSARY STEPS

MINISTERS CONFER WITH CHAMBERS OF COMMERCE

THE "alarming situation" created by the heavy fall in jute prices was explained by the Commerce Minister, Government of Bengal, at a conference of representatives of various chambers of commerce and jute trade at the Bengal Secretariat on April 4, 1940.

The Chief Minister, the Home Minister, and the Minister for Agriculture were also present.

The Commerce Minister further explained the future unhealthy effect of such an abnormal fall in the prices on the new crop and on the economic condition of the jute growers.

The conference discussed the possible methods of preventing a further fall in the prices of jute and hessian and the non-officials present were of opinion that Government should adopt suitable measures to prevent the situation from deteriorating further.

Cotton-Jute Fabric

POSSIBILITIES IN INDIA

INDUSTRIAL DISCOVERY DURING WAR PERIOD

TWO of India's major industries have been able, as a a result of trials and tests during the first six months of war to combine in producing a new material, "Cotton-Jute Union Fabric" which will provide another outlet for two of her principal agricultural commodities, if preliminary successful tests are confirmed generally. This result is due to the developmental work of the Department of Supply and the Master-General of Ordnance, states a Government of India Press-Note.

For many years flax has been found to be the most suitable material for a number of purposes and the increasing use of certain new and improved materials for defence and civil purposes has involved a greater need for flax. Those responsible for preparing for an emergency realised that since about 70 per cent of the world supply of flax came from Russia, there existed the risk of a shortage of flax for the British Commonwealth and its Allies. Not only has this risk materialised but the position has worsened owing to supplies from the Baltic countries having been cut off. Allied to this there is the additional demand for A. R. P. fire fighting hose.

The position had to be met by finding a substitute from the range of primary products found in the British Commonwealth. Those responsible in India called to their aid the experts of Indian industry and thanks to their wholehearted support in the subsequent trials, India has been first in the field with a satisfactory substitute evolved from a combination of cotton and jute.

Preliminary tests with this cotton-jute union fabric gave excellent results and the first trial shipment, for big scale tests under actual service conditions, has already been made. A definite indication has been given by His Majesty's Government that in the event of these large scale tests proving as successful as the preliminary ones, there are prospects of early orders to the value of about Rs. 90 lakhs.

This material is likely to prove eminently suitable for civil purposes also, which holds out prospects of a wider peace time use for both cotton and jute. This should be particularly welcome in view of the contraction that has taken place during recent years in certain foreign markets for these raw products of India.

JUTE'S OPPORTUNITY ?

THE FLAX FAMINE

Discussing the prospects of jute as a substitute for flax and effect on the consumption of jute and cotton of the cotton-jute union fabric *Capital* in its issue of March 28 says :—

The first boost that jute got in its early days was as a substitute for flax when the supply of the latter was cut off during the Crimean War. Russia was then, as now, the chief source of flax and a substitute had to be found, for the other flax-growing countries were unable to increase their production sufficiently to meet a demand which the war had increased. Similar conditions have again arisen, even though the Empire is not at war with Russia. Since the Russian Revolution there has been a steady reduction in the export of flax from Russia owing to increased internal use of the fibre. Supplies have been available from Latvia and Estonia but, with Russia now dominating these countries and the Baltic practically sealed, these sources are also cut off. There is, therefore, virtually a flax famine and it comes at a time when the requirements of flax goods such as hosepipe, tent canvas, paulins, etc., have vastly increased. A substitute must, therefore, be found. Can jute fill the gap ?

Jute long ago ousted flax from its use as sacking and ordinary cloth for packing purposes, but it has never proved a fully satisfactory substitute for flax canvas which continued to hold its position. Experiments have gone on for years in the rot-proofing and water-proofing of jute but complete success has not yet been achieved. The Press-Note issued last week regarding the new "Cotton-Jute Union Fabric" is, therefore, of special interest.

There have been rumours in the market lately of proposals made to the Indian Jute Mills' Association for the manufacture of a canvas from cotton warp and jute weft and it has also been reported that experiments have been made in the production of a blended jute and cotton yarn. It is not clear from the Press-Note which of these methods has been used in the production of the new fabric, but both of them are of importance to the growers of jute, though possibly not equally so to jute manufacturers. Though there is said to be no great obstacle to the use of cotton warp by Calcutta jute mills, there is some doubt as to their ability with their existing machinery to turn out as closely woven a canvas as is said to be required. The production of cloth from blended jute and cotton yarn appears also to be more suitable for cotton mills than for jute mills. If either method of manufacture is adopted, and the cloth is produced in cotton mills, it means an increase in the consumption of raw jute, while, on the other hand, the introduction of cotton into fabrics manufactured in jute mills might mean a reduction in the amount of raw jute required, though that does not of necessity follow, for the demand for the new fabric might be entirely additional to and not instead of that for ordinary jute goods. Developments will be followed with interest by all connected with the industry.

The Fibre-Agaves

ECONOMIC AND CULTURAL CONSIDERATIONS

I. THE DIFFERENT HARD FIBRE-PLANTS

SINCE very early times Agave plants have been used in Mexico for the bleeding sap that flows from the centre of the plant after cutting the flower-stem. This sap is produced very abundantly over four or five months of the year, yielding up to a thousand litres of juice per plant. In Mexico this is converted by fermentation into alcoholic beverages, partly into a brandy called pulque, partly into a wine called mescal. Furthermore, in the countries of origin Agaves were used as a source of fibre ; to-day, these countries are the biggest furnishers of hard fibres called "Sisal" or Henequen". In addition to the Sisal plant (*Agave sp.*) the principal hardrope fibre plants now used are the Manila hemp *(Musa textilis)*, the Coconut fibre (Coir, *Cocos nucifera)*, the Mauritius hemp *(Fourcroya gigantea)*, the Sanseviera fibre *(Sanseviera sp.)*, the New Zealand hemp *(Phormium tenax)* and the little known Caroa plant of Brazil *(Neoglaziovia variegata)*. None of these plants was widely used until 1850, when in Yucatan (Mexico) the *raspador* (decorticator) was invented for the preparation of the Henequen fibre, and Manila hemp began to come into ever wider use, superseding the true hemp, *i. e.*, the fibre derived from the stalks of *Cannabis sativa.*

However, the cultivation of Manila hemp remained limited to the Philippines and there it was mainly confined to the "hemp provinces", which are in the southern parts of Luzon and in the Visayas Islands (Camarines, Albay and Leyte). Attempts to extend the cultivation of species of *Musa* elsewhere failed owing to the special requirements of this plant as regards climate and soil. In south Sumatra (Lampong) two plantations exist, but their output has not for some years exceeded 200 to 300 metric tons. Nevertheless, the export of Manila hemp rose steadily, reaching 90,000 metric tons in 1900, passing the 100,000 tons mark in 1906, and reaching a peak of nearly 190,000 tons in 1935. But Manila hemp has also found competitors in Sisal hemp and, to a much smaller extent, in the Mauritius and New Zealand hemps. The Sisal, a plant originating from the semi-arid regions of South and Central America, especially Mexico (Yucatan), grows fairly well throughout the tropics and subtropics on soils where other plants such as coffee, tea and rubber could not yield sufficient crops.

In the last few years, the hard fibre plants have attracted special attention on account of the disappearance from the European market of some of the soft fibres. Since 1932 the export of flax from the U. S. S. R. has ceased. The policy of the Italian Government in regard to Italian hemp results in home-produced fibres being held back from the open market. The *Federcanapa* maintains prices at a level considerably above those at which other competing fibres are being sold, with the result that the export trade has been on a very limited scale except to Germany, which country is said to have purchased about 30,000 metric tons on the barter system. On account of this scarcity of supplies in the soft fibre market great efforts have been made to replace these fibres by hard fibres, of which the spinning process has been greatly improved. Nowadays one finds Sisal used in the production of yarns, lines, carpets and mats and other products for which formerly hemp alone was used.

TABLE I.

World Export of Hard Rope Fibres

(Metric Tons)

Territory	1934	1935	1936	1937	1938
Dutch East Indies, all sorts	69,948	93,430	78,217	86,602	84,328
Philippines "Maguey" ...	10,760	14,725	21,707	15,585	6,014
"Sisal" ...	...	...	131	747	
Total Asia ...	80,708	108,155	100,055	102,934	90,342 (1)
Portuguese West Africa	3,022	4,364	4,907	...	...
Tanganyika ...	73,670	83,999	81,844	92,082	157,420
Kenya	24,400	33,200	35,302	31,775	
Uganda	...	561	1,451	891	
Nyasaland	...	...	468	893	
Portuguese East Africa ...	18,955	21,138	20,131	21,887	
Madagascar	1,919	2,511	2,476	2,657	
Senegal (French Sudan) ...	2,552	3,367	2,631	3,110	9,652
Ivory Coast	1,159	876	1,002	913	
Belgian Congo ...	199	110	579	...	
Togo	...	2	...	...	
French Guinea ...	463	432	380	367	
Total Africa ...	127,239	150,560	151,175	160,000 (1)	167,000 (1)
Brazil	..	137	...	...	...
Mexico	68,321	89,751	72,180	93,472	76,200
Panama	...	...	117	...	...
San Salvador	15	163	871	...	...
British West Indies ...	21				
Bahamas	...	617	2,230	15,240	15,210
Jamaica	...	...	...		
Cuba	1,928	5,993	5,660		
Haiti	6,046	4,988	5,670		
Dominican Republic ...	46	...	...	...	...
Columbia	...	15	...	...	...
Argentina	...	47	...	...	...
Total America ...	76,377	101,711	86,728	109,000	91,000
Total Agave ...	284,324	360,426	337,958	372,000 (1)	348,000 (1)
Manila Hemp (Philippines)	174,500	188,201	167,124	165,330	148,000
Mauritius Hemp ...	669	446	1,389	1,863	250
New Zealand Hemp ...	3,648	3,720	5,798	7,620	4,000
GRAND TOTAL ...	463,141	552,793	512,269	547,000 (1)	500,000 (1)

(1) Estimate

The figures for 1938 are taken from the Annual Review of Messrs. Wigglesworth & Co., Ltd., London.

The other figures are reprinted from the Bulletin of the Central Bureau of Statistics, Batavia 1938, Landsdrukkery.

TABLE II.

Export of Hard Fibres from Producing Countries (1).

(Metric Tons)

Destinations	Dutch East Indias 1935	East Africa (2) 1935	Philippines 1935	Mexico 1933	Grand Total Round Figures.
Netherlands	19,658	5,240	1,297	2,031	28,100
Great Britain ...	1,292	36,629	44,377	...	82,100
Germany	10,101	14,496	3,203	...	27,800
France	1,217	4,346	4,202	813	10,500
Belgium	7,401	34,680	4,388	16,750	63,000
Italy	425	1,336	1,448	...	3,200
Spain	1,365	1,454	2,355	...	5,000
Denmark	953	75	1,682	...	2,500
Norway	549	5	1,950	...	2,500
Sweden	1,231	150	776	2,032	4,100
Baltic States	127	10	...	...	140
Balkan States ...	54	12	...	...	77
Canada	2,467	3,787	3,667	...	9,800
United State of America	38,734	9,207	44,474	77,419	169,900
South America ...	20	2,061	617	...	2,700
Egypt (Egyptian Sudan)	508	1,065	...	...	1,500
Union ot South Africa ...	173	371	...	...	540
British possessions ...	66	151	1,509	...	1,700
Japan	682	...	66,891	...	67,400
Australia	4,126	35	3.395	...	7,500
New Zealand	257	47	517	...	800
India	...	12	1,140	...	1,150
Palestine (Cyprus) ...	...	10	...	...	10
Portuguese possessions ...	...	25	...	...	25
Turkey (Syria) ...	...	76	175	...	250
Iran	...	23	...	...	23
U. S. S. R.	...	59	...	...	60
Arabia	...	19	...	...	20
Czecho-Slovakia ...	...	5	...	...	5
China	...	...	227	...	230
Unknown	880	...	...	15	900
TOTAL ...	92,346	115,386	188,200	99,060	...
Tow	1,084	...	...	...	...
TOTAL VALUE ...	7,293,325 guilders	1.570,440 Pounds Sterl.	22,947,933 Pesos	15,660,967 Mex. Pesos	...
Value per metric ton or 1,000 kilogrammes.	78·98 guilders	13. 4. 0. Pounds Sterl.	121·93 Pesos	158·10 Mex. Pesos	...
Value per long ton in pounds sterling.	10. 14. 10.	13. 4. 0.	12. 5. 0.	10. 14. 0.	...
Export of manufactured cordage in long tons.	...	2,036	8,006	...	...

---

(1) According to official statistics. More recent figures for Mexico were not available.

(2) Long tons.

II.—PRODUCTION AND TRADE OF HARD FIBRES.

From Table I we see how, owing to its adaptability to climate and soil, Sisal cultivation has now spread over the hot countries of the whole world. In addition to the countries named in the Table we find some production also in the Mediterranean countries, which, however, is only for local consumption.

Furthermore, we see from Table I that :

1. Manila hemp, also known as *Abaca*, is no longer the principal hard fibre produced. In the last two years Sisal fibre production has passed that of Manila hemp and is now more than twice as great.

2. The total output of hard fibres is fairly well distributed between the different nations :

U. S. A.	territories	...	181,500	metric	tons	or	33%
British	,,	...	151,000	,,	,,	,,	28%
Dutch	,,	...	86,600	,,	,,	,,	16%
Mexican	,,	...	93,500	,,	,,	,,	17%
French	,,	...	6,000	,,	,,	,,	1%
Portuguese	,,	...	26,000	,,	,,	,,	5%

3. The three most important producers of Sisal, namely the Dutch East Indies, Tanganyika and Mexico contribute nearly equal shares to the world output of Agave fibres.

As regards the trade in hard fibres, Table I shows that in 1937 and 1938 the total exports underwent the following fluctuations. In 1937, the exports of Sisal rose by about 35,000 tons above the 1936 figure, whilst the exports of Manila and other hemps hardly showed any change. In 1938, however, the former showed a decrease of about 24,000 tons and the latter of about 23,000 tons on their 1937 figures. Therefore, the total exports of hard fibre, which in 1937 had risen by about 35,000 tons as against 1936, in 1938 fell by about 47,000 tons as against 1937.

Table II shows the destinations of the exports from the producing countries. Except in the case of Mexico, of which the United States absorb nearly 80 per cent. of the exports (and Belgium and Holland, as the main countries of entrepôt trade for hard fibres, take most of the remainder) the exports from the producing countries are fairly well distributed over the whole world, so that all countries with mercantile or fishing fleets have their needs satisfied.

There are now some eight countries absorbing the bulk of the exports. Of these the United States of America are by far the largest with 170,000 metric tons ; next comes Great Britain with 82,000 tons, followed by Japan with 67,000 tons, Belgium with 63,000 tons, Holland with 28,000 tons, Germany with 27,000 tons and France and Canada with 10,000 tons each. Belgium, however, serves mainly as a country for entrepôt trade, importing according to her own statistics (1937) only 35,395 and 6,947 metric tons of sisal and abaca respectively, of which 16,165 tons of sisal were re-exported, mainly to France, Germany and Russia, as raw fibre. —*Monthly Bulletin of Agricultural Economics and Sociology, International Institute of Agriculture.*

(To be continued)

Cordage Fibre Markets

SUMMARY OF CONDITIONS AND TRENDS

THE following is a review of the hard fibre markets published in the February issue of the *Cord Age*, New York:—

MANILA HEMP

During the past five weeks, the market on the whole continued very dull. There were occasional spurts of buying, but no sales in volume to commercial manufacturers were reported on the market.

The United States Navy bought 3,400 bales on January 25 at prices below the market. Following this sale, the market turned weaker, but now shows a steadier tendency chiefly due to the indifference of original sellers in Davao who are offering hemp only sparingly.

The Procurement Division of the Treasury announced on January 30 that it would open bids on February 8 for 3,400 bales.

The decision of our Government to create a surplus reserve in the United States is generally regarded as a wise one, and it is surprising that the various European Governments have not taken similar action.

It still seems to be clear that the manufacturers have used up considerably more hemp during the months of October, November, December and January than they have bought, and present prices, which are not high considering the state of the world, do not seem to afford sufficient attraction to the buyers on average to induce them to maintain larger reserves than usual.

The demand in Europe was moderate during most of the period under review, but during the past few days there has been a distinct improvement; the circumstances leading to this, are however, not known.

The decline which has taken place in prices during the past two months has brought the grades of Manila hemp, which in the past have been employed by the binder twine manufacturers, down to a competitive basis, and it would not be surprising to see the re-establishment of the outlet for Manila as a binder twine fibre.

MEXICAN SISAL

Business continues to be practically impossible owing to the scarcity of supplies. On January 20, the total stocks in Progreso and Merida were reported as 27,854 bales of all grades.

As a result, it would appear as if the Henequeneros de Yucatan is compelled to rely upon current production in order to implement sales previously made. It is noteworthy that considerable quantities of Mexican sisal have been moving to Europe through the ports of New Orleans and New York.

AFRICAN SISAL

The recent tendency has been for prices to be fractionally higher owing to the improvement in the Sterling Exchange rate. No actual news regarding this article is obtainable. One of the rumours which has been circulated lately is that no less than 8,500 tons of African sisal have been purchased for the manufacture of camouflage netting.

CORDAGE INDUSTRY IN CANADA

CENSUS REPORT

The February issue of the *Cord Age* states that a census compiled by the Canadian Government discloses that the ten establishments in Canada listed in the cordage, rope, and twine industry in 1938 reported a gross value of production of $4,910,962 and a capital investment, in fixed and current assets, of $10,437,106. The value added by manufacture in 1938 amounted to $1,756,436.

From the standpoint of both volume and value, binder twine is the principal product manufactured by the industry. In 1938, there were produced 41,076,952 pounds of binder twine valued at the factory at $2,958,001, or at an average selling price of 7·2 cents per pound. The output of binder twine represented 60 per cent. of the total value of products made in 1938.

The output of rope totalled 6,787,191 pounds, valued at $1,108,737; of twines for sale, 4,464,212 pounds, valued at $594,959; and all other products had a value of $249,265.

Compared with 1937, the output of binder twine was 19·4 per cent. lower, of twines for sale was down 15·4 per cent., and the production of rope decreased 37·4 per cent.—all in point of quantity. Ontario, with six plants, accounted for 82 per cent. of the total output in 1938.

Hard fibre—such as Manila hemp, African hemp, and sisal—constituted the principal materials used by the industry in 1938 and represented a value of $2,524,545 or more than 82 per cent. of the cost of all materials used.

Jute, Flax and Hemp Trades

AN INTERESTING REVIEW

THE *Statist* (London) in its issue of February 25, 1940 publishes the following interesting review of the jute, flax and hemp trades :—

JUTE

Prior to the outbreak of war, prospects for a good crop of jute were very promising and all members of the trade were looking for lower prices. The result was that business was slow in all sections of the market and consumers of all commodities were allowing their stocks to run down to low levels. As events proved, this was an important factor to the jute industry. Immediately war was declared, all trading was suspended by law and for three weeks spinners were obliged to sit and watch prices of raw jute steadily advancing in Calcutta, and they were unable to take advantage of the comparatively low rates then ruling. At the end of these three weeks the jute industry was decontrolled, and there was naturally a scramble to secure supplies of jute, yarns and cloth, with the result that prices rose to about twice the level at which they stood in August. Every round of yarn and every yard of cloth was bought for delivery some months ahead. Those consumers of cloth who were awaiting arrival of goods purchased from Calcutta were prepared to pay almost any price for quick delivery of Dundee goods. Manufacturers were under orders to supply four million sand-bags per week to the Government, and so great was the pressure for other goods that the Government reduced the number to two million yards per week. Lack of freight from Calcutta hindered shipment of jute to Dundee, and there were several cases of firms having to curtail their production for want of sufficient raw material. The position is now improved, but there is still not too much fibre available.

The large business done in yarns caused prices to advance from 2*s*. 8*d*. to 5*s*. 10*d*. for common 8-lb. cops, while cloth rose from 3·94*d*. for 10½-oz. 40-in. hessians and 3·06*d*. for 8-oz. to 8*d*. and 6*d*. respectively. Since then the market has developed marked quietness and prices have every appearance of easing. It is calculated that spinners and manufacturers are making profits of from £20 to £25 per ton, but the E. P. T. and income tax take about 75 per cent.

There would appear to be a sufficient supply of raw jute to meet all requirements for the current seasons. The value of full group Daisee-2/3, which on September 1 last was standing at £21 17*s*. 6*d*., advanced to £56 at the begining of December, but has since reverted to £38 and recovered to £43. Fearing that the high prices prevailing this season would encourage the growers of jute to cultivate a much larger area in the coming season, the Bengal Government has just issued an Ordinance* stating that no grower can grow jute unless his name, or the name of his predecessor in the interest, was entered in the record, and that no grower can grow jute on any area of land in excess of the area entered against his name or his predecessor's name. The Ordinance also provides for the destruction of jute grown in contravention of the Ordinance.

*Since withdrawn.

The British Government placed orders with the Indian jute mills for a total of about 700 million sandbags to be delivered at the rate of 109 million bags per month by the end of April. The mills were compelled to increase their working hours to 60 per week in order to cope with the increase in business, apart from these sandbags. American consumption during September jumped to 91 million yards, compared with 54 million yards in August, but that satisfactory improvement did not continue, and consumption in October fell to 73 million yards, in November to 63 million yards, and in December to 53 million yards.

Towards the end of January the British Government advised the Indian mills that deliveries of sand-bags would be made at half rate, *viz.*, 54,500,000 bags per month, as from February 1, which had an adverse effect on prices for raw jute and Calcutta goods, the former dropping by £7 per ton in one day, and values of the latter fell to 30*s*. 8*d*. for 10-oz. 40-in. and to 25*s* for 8-oz. February-March, and 30*s*. 2d. and 25*s*. 3*d*. April-June, after being as high as 48*s*. 3*d*. and 41*s* respectively, January. Liverpool twills have varied between 119*s*. and "B" twills from 109*s*. 6*d* to 95*s*. 9*d*. and 86*s*. respectively in the past two months. The total production of the Indian jute mills during 1939 was 1,893,961,429 yards of hessian cloth and bags and 1,407,087,170 yards of sacking cloth and bags, between the two of them representing an output of about 7,000 miles of cloth per day.

The prospects for the jute industry are bright so long as the war lasts. Dundee manufacturers will discontinue delivering sandbags to the Government as from April 12, but there are many other wants to fulfil, including the manufacture of camouflage hessian. Recently there has been an urgent demand for flour and potato bags and linoleum hessians, and spinners and manufacturers are doing their best to meet buyers, despite the fact that they are unable to produce to full capacity because of sickness among their workers and difficulty in securing workers to take the place of those who have been called to the Colours. The workers received a total increase in wages of 12½ per cent. during November and January. Though the jute industry was decontrolled at the end of September last, there is a Jute Control, the head of which is Mr. George Malcolm, director of Messrs Ralli Brothers, London, with Mr. Harold S. Sharp as deputy. To control prices of raw jute, yarns and cloth, there would require to be a co-operation between Calcutta and Dundee, but evidently an agreement on the matter cannot be reached. Spinners are at liberty to purchase their raw jute for shipment as they please, but they require a licence to buy on spot. All transactions in yarns and cloth are carried through only under licence issued by the Control.

FLAX

All business in the linen industry is now virtually confined to the supplying of Government wants, which are indeed many, and both spinners and manfacturers are extremely busy. Before the war a moderate trade was being done for Government account, outside business being very quiet. Immediately on the outbreak of war, however, the industry was placed under the Flax Control, which fixed prices on a lower basis than those prevailing in August, with the result that sellers refused to sell. It was not long before demand began to tell, and a rapid advance in prices took place all round. The Flax Control buys all the raw material and distributes it to spinners, all transactions to spin and weave being carried through under licence from the Control. Raw flax has become extremely scarce, and it is questionable if there will be sufficient to go round until a new crop becomes available. Normally, in recent years, the trade has had to depend mostly on supplies from the Baltic States, viz., Latvia, Lithuania and Esthonia, Sòviet Russia having declared its inability to export any but the commonest qualities, which were of no interest to spinners here. Continental flaxes, principally of Belgian origin, are now almost the only fibres obtainable by Britain, only an occasional parcel being received from Latvia. Sellers of Belgian flaxes have, therefore, almost a monopoly and have advanced their prices considerably. When war broke out the price of continental flaxes was round about £100 per ton; now the Government is paying £250 to £300 per ton.

Scottish spinners and manufacturers are solely engaged on making goods for the country's needs, while producers in Belfast are supplying the wants of the Government and export. In order to make this country less dependent on flax supplies from abroad, the Government is making efforts to extend flax production in Scotland and England, while the area in Ireland is being considerably increased. The Ministry of Agriculture has informed county war agricultural executive committees that where the land is suitable and the farmer has been offered a definite contract for flax, the committee can give a certificate in favour of the production of this crop for the purpose of the £2 per acre ploughing-up grants. Contracts for flax straw at fixed prices will be made by the processing factories with farmers. So far as the factories are concerned, production will consist of unretted fibre, known as "green fibre", as distinct from retted fibre, which is the normal type produced in Northern Ireland and on the continent. Unretted fibre can be used particularly in the production of heavy linen goods for service requirements, such as sail canvas, etc. Factories will be located in Perthshire and in various English centres. It was stated earlier that the Ministry of Supply was working in conjunction with Erichside mill, Blairgowrie, Perthshire, owned by the Scottish Flax Company, Ltd.

Makers of hose-pipe canvas are extremely busy on Government orders, and so long as the war lasts spinners and manufacturers should continue to work at full capacity, as there is a continual demand for tents, canvas for soldiers' equipment, etc.

During the last world war the price of flax rose to £400 per ton.

HEMP

Hemp is the cheapest fibre obtainable. This may be accounted for by the fact that there are so many different sources of supply, with so many varied qualities available for use by consumers. Of most qualities, there is a plentiful supply this year and a steady demand ensures an outlet. The British Government has taken control, under the Hemp Control of all supplies required for the United Kingdom and, by steady purchasing, has made sure of consumers obtaining sufficient for their needs. There have been regular supplies of Yugo-Slavian and Italian hemps, bought at steadily advancing prices, which the Government has allocated to spinners as they have been required. Compared with £70 before the war, the value of Yugo-Slavian hemp rose to £88 in the middle of December, since when the rate has risen to £95 per ton. Prices have varied as time has passed, and the Government has issued price lists periodically, which can be obtained from the Stationery Office at ld. each. With flax and jute ruling at very high levels, hemp has come into its own, and there are many and varied uses to which it can be put in time of war. Italian hemp, which was virtually unobtainable here before the war, owing to the prohibition on exports, is now available at £155 for PC and £159 for SB, against £71 10s. and £73 10s. respectively in August last, c. i. f. U.K. There are good supplies of Indian hemp quoted at the low rate of £22 10s. for Benares No. 1, compared with £16 10s. before the war, while African sisal has only risen to £26 for No. 1 and £25 for No. 2, from £14 10s. and £13 10. ruling in August. Both America and Japan have taken their usual supplies of Manila hemp, and there is not very much available for use by other consumers. There is a great scarcity of offers of Manila, and it is an exception as regards supplies. J2 is quoted now at £32 10s. and K at £28 10s., compared with £17 10s. and £16 5s. before the war.

U. S. A.

EXPORTS AND IMPORTS

RAW AND MANUFACTURED JUTE

THE *Monthly Summary of Foreign Commerce of the U. S. A.* published the following figures regarding the imports and exports of raw jute and jute goods into U. S. A. during the first eleven months (January—November):—

	1939 (tons)	1938 (tons)
Imports:—		
Raw Jute	33,534	31,800
Jute Butts	376	10,535
Waste Cloth and Baggings	11,500	22,997
Burlap (Hessians) ...	184,527	204,957
Bags and Sacks ...	10,647	16,052
Exports:—		
Jute Bags	8,941	5,839

ORIGIN OF U. S. A. BURLAP

According to the *Daily Mill Stock Reporter* of New York, imports of burlap in November originated in various countries as follows:—

	1939 (tons)	1938 (tons)
Belgium	52	198
Germany and Czechoslovakia	133	199
Hungary	...	42
Italy	...	429
Netherlands	...	12
U. K.	784	1,110
British India	24,987	15,413
Others	53	63

SISAL AND MANILA HEMP

According to the *Monthly Summary of Foreign Commerce of the U. S. A.*, Imports of Sisal and Manila Hemp into U. S. A. during the first eleven months (January—November) were:—

	1939 (tons)	1938 (tons)
Sisal and Henequen ...	107,818	101,007
Manila Hemp	36,984	24,329

SISAL IMPORTS DURING LAST YEAR

INCREASE IN VOLUME

Importations of sisal into the United States during the last calendar year showed an increase in volume, according to the *New York Daily Mill Stock Reporter.*

According to official figures released by the United State Department of Commerce, total imports of sisal during 1939 amounted to 118,761 long tons, a rise of 9·7 per cent. compared with 108,283 tons imported in 1938. While larger in tonnage than in the year before sisal imports last year were smaller in both volume and value than in any of the three years prior to 1938.

Sisal imports into the United States in long tons during the past seven years are given below :—

Year	Tons
1933	126,268
1934	78,082
1935	125,931
1936	129,853
1937	131,207
1938	108,283
1939	118,761

IMPORT OF JUTE AND SUBSTITUTES

The following table compiled from *Commerce Reports* of February 10, 1940, shows the trend of imports into U. S. A. of burlaps and jute substitutes :—

Commodity	Unit	1929	1932	1937	1938	1939
Burlaps	Million lb.	644	342	658	504	441
Flax, hemp and ramie manufactures	Million dollars	45	20	33	21	22
Unmanufactured vegetable fibres : includes sisal, manila, kapok, etc. ...	thousand tons	238	222	214	158	197

N.B.—General Imports in 1929 and 1932, imports for consumption in 1937, 1938 and 1939.

HESSIAN STOCK AND CONSUMPTION

Hessian stock and consumption figures of the United States of America excluding the Pacific Coast business, as reported by the Indian Jute Mills Association, are given below, the figures being in millions of yds. :—

	December		January		February	
	1939	1938	1940	1939	1940	1939
Stock	264	312	281	314	213	304
Consumption	53	60	55	61	52	53

NEW YORK PRICES

The *Daily Mill Stock Reporter* quotes the following prices of Raw Jute and Jute Goods prevalent in the New York Market, all the prices being nominal :—

Date	Raw jute (Native Firsts) Cents per lb.	Burlap (Hessians) Cents per yd.		Old Bags Cents per bag	
		8 oz. × 40s.	10 oz. × 40s.	100 lb. sugars	140 lb. starch
24th Jan., 1940 ...	8·70	6·70	8·30	4·38	6·88
31st Jan., 1940 ...	8·80	6·30	7·90	4·38	6·88
8th Feb., 1940 ...	8·50	6·15	7·60	4·13	6·63
15th Feb., 1940 ...	8·70	6·25	7·70	4·13	...

Competition which jute may meet in America

EFFECT OF SUDDEN RISE IN PRICES

NEW YORK PRESS VIEW

THE following are extracts taken from the **Annual Textile Review** number of the **New York Journal of Commerce** issued at the end of January, 1940 :—

Cotton goods seize new outlets

Important outlets for certain industrial cottons have been materially widened in recent months and this trend will gain considerable impetus from developments now in the making with respect to both new and established uses.

Among the so-called cotton industrial fabrics, bagging constructions are undoubtedly due for a further expansion of use. With normal differentials between burlap and cotton wiped out, cotton bags at last have the opportunity to demonstrate, in actual service, advantages that have long been claimed for them. In numerous instances multiple trip cotton bags can now be advantageously brought into use to prove their economy on the basis of being capable of being used a second and more times. In scores of other cases the high commercial re-sale value or the household re-use possibilities of cotton bags are "plus factors" that are going to do much to establish their use. Concrete examples to show how these things work out may be cited.

WIDER BAG MARKETS

One big market for bags which the cotton industry has long coveted, but never succeeded in opening, is in connection with the transport of raw sugar to refineries. As long as burlap was plentiful the sugar industry generally was content to go on using burlap which, after a single trip, was disposed of for other purposes, despite importunings that a cotton bag, capable of being used over and over again, might be the most economical container per trip. New and sympathetic consideration of those contentions, however, is now being given in connection with plants currently being formulated for a thorough trial of heavy cotton raw sugar bags.

To illustrate otherwise how the demand for cotton bags is taking shape, cotton container bags, or "covers", may be mentioned. These are the sacks in which are shipped the smaller packages of sugar put up in the familiar cotton packets of 2, 5, 10 and 25-pound capacity. About a month ago the sugar refiners eliminated the 5c per 100 pounds differential that, for the past several years, had applied on this item. Buyers of refined sugar, finding a re-sale value of 6c each for these covers, can now take a profit from their use of cotton bags. Incidentally, this development—with special significance to the weavers of 36-inch 3.25-yard plain sheetings—in large measure nullified the price advantage formerly held by the small sized, refinery packed, paper sugar sack.

Indicative of the important appeal of the re-use value of the emptied cotton sack is the recognition—though somewhat belated—of that factor by the fertilizer industry. It is anticipated that in 1940 a considerably larger proportion of total fertilizer shipments than the estimated 20 per cent. for 1939 will be in cotton bags. At a recent trade conference in Memphis it was frankly admitted that cotton bags, once generally adopted and thereby given the opportunity to demonstrate their re-use capabilities for literally scores of purposes on a farm, would become firmly established. One of the largest fertiliser manufacturers gave notice there that cotton bags would this year be available for shipments of his products without extra charge. Now that fertilizer manufacturers concede that, with the possible exception of certain especially hygroscopic types, fertilizer material can be satisfactorily shipped in cotton bags, other producers will assuredly follow suit in greater or less degree.

SPEED EXPERIMENTS

In appraising the importance of the substitution of cotton bags for burlap in these particular instances mentioned above, as well as in others, it is to be borne in mind that the sooner their acceptance is effected, the more difficult it will be, by reason of custom of their use, to replace them with sacks formerly in favour. With that consideration in mind numerous experiments with cotton bagging materials are being expedited on several fronts.

War favours Cotton

The genuine optimism over prospects for 1940 that exists along Worth Street is based upon sound reasoning and a realistic appraisal of the unique position that cotton goods have come to occupy in American textile markets.

Mills last year produced more than 9,000,000,000 square yards of assorted cottons or about 1,500,000,000 more than in 1938. This compares with 9,445,736,000 yards in 1937 and 8,613,837,000 yards in 1936. The year 1937 was the most prosperous and active that the industry experienced since the post-war boom, which collapsed back in 1922.

The factors responsible for the impressive output last year are still apparent and have lost none of their potency. Internally, they include attractive prices, aggressive promotion and the ability to exploit any opportunity for creating new outlets for the products of cotton looms.

NEW MARKETS

The opening of new markets for cotton goods, however, can safely be attributed to the war. The inevitable distortion of price relationships that have marked every sizable war in the past are again apparent but this time they favour cotton. Wool prices have risen sharply, jute and burlap products have been pushed almost beyond the reach of many consumers and silk prices have soared to the highest levels in about twenty years. Compared with most other textiles, cottons are underpriced with the result that they will continue to benefit from necessitous substitution.

Right now Worth Street merchants are busily at work nailing down outlets for cotton baggings which were formerly dominated by burlap importers. The feeling is general that these outlets can be maintained even after peace is declared. New cotton cloths have been developed that compare favourably in strength and general utility with competing jute products and are much cheaper in price. The industry this coming year will strive to educate consumers to ask for cotton containers and in this way build up strong pressure for increased purchases of cotton materials by the bag manufacturers.

1939 Statistics on Burlap

Month-end stocks of burlap at the primary market in Calcutta, United States monthly consumption and stocks during the year 1939, are as follows:

		Calcutta yardage on hand. (end of month.)	U. S. Consumption.	U.S. yardage on hand. (end of month.)
	(*)			
January	5·25	483,000,000	61,000,000	314,000,000
February	5·65	498,000,000	53,000,000	304,000,000
March	5·55	493,700,000	66,000,000	283,000,000
April	6·00	481,100,000	54,000,000	279,000,000
May	5·55	470,400,000	50,000,000	271,000,000
June	5·55	450,400,000	47,000,000	265,000,000
July	5·45	413,400,000	47,000,000	260,000,000
August	5·75	366,300,000	54,000,000	264,000,000
September	8·30	294,900,000	91,000,000	258,000,000
October	10·60	307,200,000	73,000,000	221,000,000
November	11·00	265,000,000	63,000,000	240,000,000
December	10·40	239,000,000	53,000,000	264,000,000
Total	...	...	712,000,000	...
Comparison at year-end with end of 1938	+110·1%	-98·3%	+3%	-15·4%

*Quoted price standard, 40″ × 10½ oz. (in cents).

Demand for Burlap Substitutes

A brisk demand for osnaburgs and sheetings to take the place of burlap in bag manufactures featured activity in gray goods markets during November. Mills sold large quantities of the heavy sheetings and osnaburg mills sold production for two to three months ahead. Prices on these items rose above the levels reached in the buying boom of September.

Conditions in Argentine

Mr. JACKMAN'S REPORT

BRISK DEMAND FOR BAGS FOR MAIZE

General Situation

Exports from the Republic during January had a volume of 1,130,000 metric tons, with a value of $ 186,191,000 pesos. Whilst the volume of January exports has been exceeded several times during the last ten years, only once in that period has the value been greater. The unit value per ton in January, 1940 was by far the highest in ten years.

Business generally is still in sound condition, although in volume it may have suffered some restriction. But commercial failures have shown no increase as yet.

Freight rates are rising, and exports during February showed a tendency to slow up. Wool has reached record prices, and pastoral products generally are finding an excellent market.

There has recently been a persistent slump in the value of the pound sterling in the open market. This today reached the lowest point for several years when it touched $ 15'90 pesos. The same downward tendency naturally extends to other currencies allied to that of Britain. On the other hand, the U. S. dollar is much firmer at $ 427 pesos per $ 100 dollars.

Crop News

The second official estimate of the volume of the principal field crops, excluding maize, shows a diminution of 788,000 tons in the wheat crop as compared with the first figures. The calculation of 3,212,000 tons is the lowest since 1916. It is 65% under the crop of last season. Linseed and canary seed have also had a downward revision; but the production of oats, barley and rye is computed to be greater. In thousands of metric tons the new figures are as follows: wheat 3,212; linseed 1,127; oats 924: barley 800; rye 386; canary seed 26·5.

A huge maize crop is in sight. After an official revision of the planted area, the first estimate of 7,200,000 hectares has been confirmed; and as the crop generally is in excellent condition a heavy yield is looked for, which private forecasters place at from 10 to 12 million tons. Of this something more than 2½ millions will go into domestic consumption, leaving 7½ to 9½ million tons available for export. The present prospects of placing that surplus in foreign markets do not appear optimistic.

The first official estimate of the production of cotton is 30,400 tons, and the present condition of the crop is said to be satisfactory.

The area planted to potatoes is officially calculated to be 204,000 hectares, which includes the second planting where two are customary. In comparison with the figures of last season the above show an increase of 64,800 hect. or say 46·5%. They are also well above the five-year average of 143,376 hectares.

Wool stocks at February 1 were officially announced to be 53,869 tons. Private reports indicate that in view of the current high prices the second wool clip is likely to be double that of normal years.

The Jute Trade

Picking of the maize crop has already commenced in the northern regions, and it will gradually spread southwards. The demand for bags to handle the crop is naturally brisk, in view of the great yield expected.

The meat packers are well employed. Shipments fell off a little in February, this being the more noticeable after the exceptionally heavy loadings in January.

The plan of public works of the National Government is expected to exceed $ 155,000,000 for the current year. The private building trade continues actively employed, and many new construction jobs are in evidence.

Jute Prices

The prices quoted in my last report continue unchanged. There has developed an unusually heavy demand for the large bags which are used by the maize pickers, and which are mostly imported. The price a month ago was $ 1'08 each bag. Dealers are now said to be charging $ 1'18¼ for these, and complaints are being made to the authorities by the farmers about this alleged profiteering.

Importations

Only one cargo arrived from India during February, this being the S. S. "Nymphe", which brought to the Republic 8,620 bales of jute ; 7,347 bales of canvas ; 120 bales of jute yarn ; and 872 bales of bags.

In addition, the "Nymphe" had on board 2,750 bales of jute consigned to Montevideo, in Uruguay.

From the United Kingdom imports during the month were 81 bales of canvas ; 68 bales of cloth ; 233 of fabric ; and 389 of jute yarn.

From Holland 76 bales of fabrics arrived, and 61 bales of inter-lining.

The only other importation consisted of 28 bales of cloth from Brazil.

JUTE AND HEMP BAGS

PRODUCTION AND USE IN CHILE

The *Daily Mill Stock Reporter* of February 2, 1940, states that one large factory in Chile turns out about 4,000,000 jute bags a year, and there are several small concerns also. The country's annual requirements are estimated at 10,000,000 bags.

In 1939, Chile imported 5,022,311 gross kilograms of jute and hemp bags. Local opinion is that the majority of the bags imported from the United States are destined for the use of American owned or controlled mining concerns operating in Chile. Bags for the mining industry are exempt from quota restrictions. Importation of jute bags for other purposes has been placed under a quota which for 1939 was set at 4,000,000 bags.

SUGAR BAGS

PRICE CONTROL IN CUBA

Decree No. 3251 published in the Cuban official gazette contains preliminary regulations for the institution of price control for jute bags intended for use as containers of sugar, says a report from the American Commercial Attache at Havana. The decree provides that, before January 13, 1940, reports must be submitted to the Cuban Secretary of Commerce on the number and price of jute bags (for sugar) imported and sold since May 31, 1939 to date of reporting, and stocks on hand at the end of the period must also be reported. The decree also contained a provision empowering the President of Cuba to fix officially maximum selling prices of jute sacks for use as containers for sugar on the basis of the data submitted to the Secretary of Commerce.

A third provision of the decree is that imported sacks and containers of any kind which may be intended for use as containers for exported sugar are declared to be articles of prime necessity. This provision covers all sugar-bags, including those made from fibres other than jute. The mere declaring of sugar bags as "articles of prime necessity" does not entitle them to be imported subject to the general or minimum tariff without the specific approval of the Technical Tariff Commission. When and if the Technical Tariff Commission approves the granting of minimum rates of import duty on sugar bags, they may be imported into Cuba subject to the general or minimum tariff regardless of the country of origin.

SISAL TWINE AND BURLAP

SHORTAGE IN URUGUAY

The American Consulate General at Montevideo reports that the purchase of 10,000 bales of sisal twine, by the Official Service of Seed Distribution, was authorized by a Presidential Decree in Uruguay dated October 4, 1939. Recent reports from the local trade had indicated that there was a shortage of binder twine in Uruguay, for the grain harvest, and that burlap for wool-bale covering also was needed.

The local press published a Government decree requiring manufacturers, importers, and sellers of burlap to report their stocks immediately, following which measures were to be taken to avert a shortage of burlap. Burlap was imported in 1938, mostly from Europe and India. Most of the imports of sisal twine also came from Europe, the United States share having been insignificant in 1938.

Export And Import Restrictions

JUTE AND SUBSTITUTES

THE following are extracts from the recent issues of the *London Board of Trade Journal*, indicating the recent steps taken by several countries in the matter of restrictions placed on the export and import of jute and its substitutes :—

Nyasaland

An import duty of 3 per cent. *ad valorem* has been levied on gunny bags, gunny cloth, sacking, hooping and other materials to be used for packing produce and on raw fibre and single ply fibre yarn imported exclusively for rope and twine making purposes.

Federated Malaya States

A Government notification absolutely prohibits the export of empty gunny bags from the Federated Malaya States.

Kedah

The Kedah Government in a notification absolutely prohibits the export from Kedah of all kinds of empty gunny bags and sacking, old or new, in lengths suitable for making into bags.

Southern Rhodesia

Importations of jute bags, bagging and sacking in the piece, linen and cotton bags for salt, flour and sugar have been prohibited by a Government notification except under a permit issued by the Minister of Finance and Commerce.

Australia

Importations of bags, bran, of a net weight of less than twenty ounces each and second-hand cornsacks have been prohibited except with the consent of the Minister.

Burma

Exports of raw jute and jute manufactures by sea or by land from British Burma to any place outside Burma or India have been prohibited except under an export licence issued by the Chief Customs Officer or Collector of Land Customs.

Palestine

The import of raw jute, jute yarns, jute threads, empty sacks and tarpaulins have been made subject to an import licence.

JUTE YARNS

IMPORTATIONS INTO TURKEY FREE OF DUTY

The *Board of Trade Journal*, London, in its issue of February 22, 1940 states that according to the Turkish Government Decree No. 2/12543 of 23rd December, 1939 jute yarns, bleached, unbleached, dyed or washed may be imported free of duty into Turkey for the use of military factories up to June 1, 1942.

FREIGHT RATE ON RAW JUTE

REDUCTION OF $ 1 PER TON

The Calcutta-North Atlantic Steamship Conference through the Commerce and Business Relations Committee of the Burlap and Jute Association announced on the 13th February, 1940 that the ocean freight rate on raw jute from Calcutta to North Atlantic and Gulf ports of the United States of America has been reduced $1 a ton of 40 cubic feet.

The reduction is retroactive to January 1 last and will apply to all shipments of raw jute during the 1st three months of this year.

Jute Markets Overseas

DOWNWARD TREND

RESTRICTED BUSINESS BY BUYERS

A MESSAGE appearing in the *Amrita Bazar Patrika* from its London Market correspondent, dated March 23, states :—

Owing to the lack of business in the jute industry, prices are declining, and in some cases this is noticeable to a very marked degree. Dundee yarns and cloths disclosed a distinct weakness since last week, because of the fact that spinners and manufacturers have been experiencing such a prolonged spell of inactivity as regards new business. Spinners have reduced the price of common 8 lb. cops to 5s. 2d. and 8 lb. spools to 5s. 3d., from 5s. 6d. and 5s. 7d. respectively ruling last week, but even at these lower prices they are making quite a good amount of profit. Manufacturers, however, have also been compelled to reduce their quotations for cloth and, considering the rates they have to pay for their yarns, they are relinquishing much of the profits they were formerly able to make. At 5s. 3d. for cops, spinners are making something like £12 10s. per ton of profit, allowing £12 for spinning costs, which have naturally increased since the war commenced, but manufacturers are gathering about £9 per ton only. The double-barrelled men (spinners and manufacturers) can count on a profit of about £21 per ton and they can, therefore, shade their prices to some extent, which some of them are doing, particularly with regard to export business. It looks as if the very low prices quoted for Calcutta goods, which are, by the way, becoming more easily obtainable owing to the larger arrivals from Calcutta, are to adversely affect trade in Dundee manufactures during War time as much as they were doing in peace times.

Statistics are not available to tell how many bales of gunnies are being imported into the United Kingdom and the total cannot be compared with last year as formerly, but it is known that Dundee imported during the first two months of this year about 13,000 bales against only 7,400 bales for the period from 1st January to 25th February last year. Many interesting statistics may be available in connection with the jute industry when the War is over, but when members of the jute market are told that the British Government has just placed orders with the Indian Jute mills for 55,000,000 yards of hessian cloth of various widths and weights at a time when Dundee manufacturers are reducing their prices in their endeavours to obtain fresh business, one can imagine their feelings in the matter. Of course, it must be admitted that prices for Dundee goods are far too dear, especially when compared with those quoted for Calcutta goods, say 3·38d for 10 oz. 40 in. and 2·8d. for 8 oz. for early shipment, against the net rates for Dundee goods of 5·97d. for 10 oz. 40 in. and 4·85d. for 8 oz , and one can not expect the buyers to pay all that difference for cloth which will suit their purpose quite well if they can afford to wait till it arrives in this country. Many buyers can wait because they bought so much soon after the war broke out, evidently being afraid that the prices would be rushed up to great heights. However, several circumstances have arisen to prevent excessive prices for jute goods. In the first place, the Indian Jute Mills increased their production to 60 hours per week, primarily to cope with the production of enormous quantities of sand-bags for the British Government. Then there happened to be an excellent crop of jute, at least in quantity, which helped to keep down the prices of the fibre, combined with the difficulty of shippers in shipping the raw material, leaving a big surplus in India. A considerable falling off in trade during the past few weeks has forced the sellers to take a more lenient view of the situation, and the whole position has been aggravated by the cautious policy of buyers. However, business may come away again in the near future, and it is expected to do so, when a recovery may be made in most prices an exception perhaps being the values named for raw jute, of which there appears to be a plentiful supply, though I am told that the quality of the jute now arriving in Calcutta is much inferior to the earlier arrivals. This may be the reason for the great reluctance on the part of sellers to offer raw jute to the United Kingdom. Sellers here have been naming First Marks c.i.f. London at £37. 10s. basis freight 66s. 6d. or at £33 f.o.b. In Dundee the full group of Daisee 2/3 has been down to £34, March/April, with Tossa 2/3 at £38. On the spot, spinners have to pay dearer rates, viz., £39 for Daisee-2/3 and £43 for Tossa of ordinary quality, with crack marks at £41 and £46 10s. respectively.

Twist has now come down to 3¾d for 3 ply 8 lb., and sacking yarns are quoted at 6¾ d for 24 lb. wet and 8½d for 8 lb. chains. Rove is reduced to £52 for 48 lb- and £42 for 200 lb. Though spinners are fairly well foresold they are becoming anxious about the future.

DUNDEE PRICES

According to the telegrams received by the *Statesman* on London Commodity Markets, the prices of raw jute in Dundee were as follows :—

——	14th March 1940.	21st March 1940.	29th March 1940.	5th April 1940.
Firsts (£ per ton)	50	49	49	48
Lightnings (£ per ton)	47	45	44	43

COUNTING THE SANDBAGS

DUNDEE CONTRIBUTES 110,000,000

Writing on sandbags a Dundee correspondent states :—

Great Britain's share must now be well over one thousand million. Here in Dundee alone the jute mills have turned out 110,000,000 of them since the war began. They have been working steadily on full time at the rate of 5,000,000 bags a week, and the rate is going up, what with an extending demand at home and in France and large repeat orders for sandbags ruined by the frost and rain.

Dundee takes practically all the raw jute which India sends to Britain, and India herself has doubled the number of sandbags made during the Great War.

Millions of yards of a lighter type of the hessian cloth from which sandbags are made have also been made and dyed in Dundee and used as camouflage cloth for aerodromes at home and overseas, and it is expected that millions of yards more will be required as spring renews the colours of the countryside.

Dundee, incidentally, had a domestic sideline in hessian when the children were evacuated and a London sewing factory set to work day and night producing thousands of jute satchels which the poorer mothers purchased at a shilling each to hold the one-night supplies with which the children went off to their billets in the country.

"GREEN" FLAX

BRITAIN'S NEW LINEN FIBRE FOR THE SERVICES

"Green" flax, the result of investigations by the Linen Research Institute at Lambeg in Northern Ireland, is about to be produced widely in England and Scotland. The fibre is quite distinct from the flax now produced in Northern Ireland and the Continent. After some years' experimenting the Research Institute, already famous for its work on plant breeding, have developed new strains yielding about twice the weight of fibre given by the ordinary varieties. It has been found to be particularly suitable for the heavy type of linen required by the Services.

The growing and processing of "green" flax is now being organised by the Ministry of Supply in consultation with the National Farmers' Unions of England and Scotland and with factories which already produce flax. Contracts for flax straw at fixed prices will be made by the factories with farmers in Norfolk, Northants, Essex, Kent, Dorset, Cambridgeshire, Lincolnshire and Perthshire. The Ministry of Agriculture have agreed that the crop will qualify as with other types of flax, for the £ 2 per acre ploughing-up grant in England and Scotland. A considerable quantity of processing machinery will be needed to deal with this unexpected extension of flax growing.—"*Capital*".

Extraction of Fibres From Sisal Leaves

A NEW BRITISH PROCESS

THE following authentic particulars regarding a new plant for improving the extraction of fibre from sisal have been sent to *Capital* by a correspondent in London :—

"An important development in the process of extracting fibre from the leaves of sisal—the sub-tropical plant like cactus in appearance—is likely not only to extend considerably the commercial application of the fibre, but to result in a large and lucrative trade in the export of processing machinery from the United Kingdom. Sisal, which is at present mainly used for the manufacture of binder and packing twine, ropes, and so on, is produced chiefly in British East Africa, the Dutch East Indies and Mexico, and, up to the outbreak of the 1914-1918 war, the annual world production was not much more than 20,000 tons. At present, however, about 350,000 tons are produced each year, of which 130,000 tons are grown in the British East African colonies and mandated territories.

"The new decorticating plant, which is being manufactured under licence by a leading firm of textile machinery makers, embodies considerable technical advances on any process hitherto used. Its outstanding advantage is that it handles the sisal far more gently than existing machines, so considerably reducing the loss of material through breakage of the fibre, which may normally amount to as much as 25 per cent. Moreover, it produces finer strands of fibre, and thus opens up new commercial uses for the product. Experiments are also being made with other fibres, and indications are that the process will extend the usefulness of Empire fibre products.

"The new process comes at a most opportune time, for, with difficulties in the way of obtaining normal sources of supply of certain fibres, the more extensive utilisation of fibres which can be grown in the Empire will be an important contribution to Britain's war effort. Furthermore, the sisal industry itself is in a better position today to benefit by it than was the case a few years ago, when production costs ranged around £23 per ton delivered, and the average price realised was only £16 per ton. Sisal is now under control, the price being fixed at £26 per ton, a figure which is expected to go even higher. There will thus be a sufficient margin of profit to encourage producers to set up the new machinery, which promises so well for the industry."

Jute Stocks & Production of Goods

POSITION IN SOUTHERN EUROPE

THE Indian Government Trade Commissioner at Milan in a letter to the Secretary, Indian Central Jute Committee, dated, February 19, 1940, gives the following particulars regarding jute stocks and production of goods in certain countries of Southern Europe :—

Greece

It is stated that the amount of jute and hemp allowed to be imported into Greece hardly covers the needs of the industries connected with these commodities ; and, it is understood, application has recently been made by the firms for an increase of the quota.

It can, therefore, be said that at the end of each year there are practically no stocks in hand; however, owing to lack of statistical information it is not easy to determine what the stocks on 30th June in each year are.

Most of the raw jute imported is made into sacks. The total imports are estimated at 4,000 tons a year. Out of this about 2,700 tons go for the making of sacks. The rest is used for making hessian cloth ; and practically no yarn is manufactured.

Approximately 3,200 tons of hemp are imported into Greece each year. This is manufactured into rope and string.

Bulgaria

This country is a relatively unimportant consumer of raw jute and jute products, as the following figures will show :—

——	Imports during period 1934-1938, incl. (in tons.)			Imports during 9 months January-September (in tons.)	
	Max.	Min.	Average	1939	1938
Raw Jute	848 (1937)	406 (1934)	650	645	455
Jute Yarns	654 (1934)	37 (1935)	195	11	69
Sacks	25 (1937)	4 (1934)	13	...	...

There is only one jute-spinning mill in the country. This mill also weaves and there are six other small weaving establishments. The bulk of the latter's yarn requirements is met by the above mill, this being evident from the fact that yarn imports have fallen off to almost negligible proportions (48 tons in 1937 and 73 tons in 1938). It is obligatory on local weavers to employ yarns composed of 30% of local hemp and 70% of jute, this being a measure designed to encourage hemp growing in this country, which incidentally, has made considerable headway during the last two or three years and is likely to continue developing.

Official figures of stocks of raw jute and jute manufactures at any given date are not available. But it can be taken for granted that at no time are there any appreciable stocks, either of raw jute or of jute products, carried. At the present moment, the quantity of raw jute in hand is approaching vanishing point.

Portugal

The only figures available in connection with jute are those given below referring to imports of raw jute into Portugal, and the local production of jute burlaps.

Imports of Raw Jute into Portugal During 1938

Origin		*Kilos*	*£*
British India	...	2,919,942	52,671
United Kingdom	...	6,529	183
		2,926,471	52,854

Production of jute burlaps in Portugal during 1938= 3,658,040 kilogs.

Yugoslavia

Estimates of stocks of raw jute or of jute manufactures held in the country are not available. Supplies, both raw and manufactured, are very low, as free exchange is not made available for the purchase of jute. In view of the scarcity, the export of jute sacks to countries with which Yugoslavia has a clearing agreement is allowed only against an undertaking that they will subsequently be returned to that country.

Rumania

No statistics are available as to the production of jute goods or stocks of raw jute. It is, however, learnt from a source reported to be reliable that on the 30th June, 1939 the stock of raw jute was 1,050 metric tons, and of sacks, hessian, etc. 650 metric tons, making a total of 1,700 metric tons in all.

Germany

JUTE SACK SHORTAGE

THE shortage of jute sacks in Germany is so acute that a collection has been carried out recently. Members of the youth organisations went from house to house and urged people to deliver up all unused jute sacks in their possession.

CONTROL OF PAPER FABRICS

According to the American Commercial Attaché at Berlin, Order No. 19 of the Reich Control Board provides for the regulation of the production of goods from paper yarns and twines, such as sacks, packing and wrapping materials, foundations for carpets, etc. Producers of paper yarns are required to report immediately the type of yarns they manufacture and the purposes for which they are used to their competent Board. The Board then decides whether the goods manufactured from paper yarn are essential and if so, whether the yarns turned out are of standard quality.

In this way the use of chemical pulp for unimportant purposes may be avoided.

Jute Trade in East Africa

IMPROVEMENT IN IMPORTS FROM INDIA

IMPORTS of bags and sacks from India which is almost the only source of supply and of jute bagging and sacking from India as well as the United Kingdom during the first nine months of 1939 registered an increase over the figure of the previous year, states the Indian Government Trade Commissioner at Mombassa in his report for the third quarter of 1939.

The following table indicates the volume of imports of jute goods during the first nine months (January—September) and their prices from July to September 1939 ;—

IMPORTS INTO KENYA AND UGANDA

		1939	1938
Total Jute Bags (doz.)	...	362,617	312,753
Share of India	...	361,559	311,541
Total Jute Bagging (Linear Yds.)	...	1,659,204	1,275,464
Share of India	...	1,461,846	1,137,952

IMPORTS INTO TANGANYIKA

		1939	1938
Total Jute Bags (doz.)	...	156,330	113,142
Share of India	...	122,543	122,067

The following are prices of jute goods in shillings prevailing in Mombassa :—

Date	2 lbs. Gunny Bags per 100		2½ lbs. Gunny Bags per 100 lined	Hessian Cloth 45/11 per yd.	Jute Twine per 36 lbs.
	Plain	Lined			
4th July, 1939 ...	52·00	52·00	66	·24	8·50
2nd Aug., 1939 ...	51·50	51·50	63	·23	8·25
5th Sept., 1939 ...	...	...	...	...	12·00

Cotton *Vs.* Jute

COTTON SHEETING FOR SACKS

AN increased demand for heavier weights of narrow sheeting from American sack manufacturers has been experienced in the American cotton goods markets and the sack manufacturers are keen on early delivery, says the *Jute Review*, London in its February issue.

In spite of the fall in burlap prices in the U.S.A. which reduced the price difference between jute and cotton bags, manufacturers of cotton bags recently stated that their products still hold a competitive advantage over comparable burlap types.

COTTON BACKING AGAINST HESSIAN

Reports from the U.S.A. state that American linoleum manufacturers are trying some of the special weaves of cotton backing with which they have been recently experimenting. The widths they use range from 75 inches up to 140 inches.

COTTON BAGS REPLACE PAPER BAGS

According to figures released by the Cotton-Textile Institute of America, cotton sugar sacks are gaining ground. This is due in a large measure to the fact that the differential previously prevailing for several years of 5 cents per 100 pounds extra for the delivery in cotton container bags has been cancelled. Second-hand bag dealers in New York and elsewhere are offering 6 cents per bag for the emptied cotton container bags. Taking into account the recoverable value of the cotton covers, the 5-pound and 10-pound packages of sugar put up in cotton packets now cost the retailers but a small fraction of a cent more than if the sugar were packed in paper bags.

Some Textile Fibres

CULTIVATION AND OUTPUT

Canamo da India (Indian Hemp)

Successful experiments have been made in the Department of Piura, in northern Peru, in the cultivation of a variety of hibiscus known locally as *"Canamo da India"*, according to a circular released by the Inspector-General of Experimentation of the Department of Agriculture, which hopes that the plant may be grown as a rotation crop. The fibre yield per hectare, it is said, may prove to be high enough to make the cultivation of this variety of hibiscus remunerative, especially in regions where it is difficult to grow cotton on account of insect pests or plant diseases.

In the future, according to the American Commercial Attaché at Lima, mills for the manufacture of cordage and bags may be erected.

Raffia and Paco Paco

Raffia is one of the principal sources of wealth in the Majunga district of Madagascar, its production exceeding 50,000 bales, according to the *"Bulletin Quotidien, Service Inter-Colonial d'Information et de Documentation"* of September 22, 1939.

This publication also reports that a textile mill for weaving "paka" (paco paco) has been constructed in the immediate vicinity of Majunga and is manufacturing bags for packing rice and other commodities. [Paco paco is synonymous with *uacima* or *Urena lobata* fibre].

The mill began production in 1931 and its output in 1938 reached 2,000 metric tons and is expected to increase to 3,000 tons, or about 4,000,000 bags in 1939.

Fique and Pita fibres

Pita fibre and "fique" are two similar fibres produced in Columbia. The latter is commonly known in Columbia as "*Fibra de Penca*" or "*Cabuya*" and, apparently, is similar to sisal and henequen. In 1937, a report of the Ministry of Agriculture to the Columbian Congress stated that upto that time fique had been used principally as hedge between fields and along roads, although large areas in Columbia were suitable for its cultivation. At that time the Government was engaged in experimental cultivation of fique.

[Fique is understood to be synonymous with Mauritius hemp].

Recently a bill has been introduced in the Columbian House of Representatives which would authorise the National Government to subscribe 250,000 pesos for the development of pita fibre. Supporters of the bill claim that Columbia possesses wild extensions of pita estimated to cover 550,000 hectares of 2.471 acres each. It is understood that between 1920 and 1932 considerable sums were spent in efforts to develop a satisfactory method of decortication but results were somewhat dubious.

Both fique and pita fibre are used in Columbia for the manufacture of sacks, packing cloth, twine and cordage; exports of these fibres, it is understood, have generally been for experimental purposes and not on a commercial scale.

Piassava Fibre

Exports of piassava fibre from Bahia (Brazil) during October, 1939 amounted to 11,024 bundles (bundle 50-60 kilograms) compared with 9,466 in the preceding month and 6,753 for October, 1938. Great Britain is an important consumer of this fibre. Exporters report that market conditions were good during October, with deliveries in Bahia insufficient to meet the demand.—*Industrial Fibres Review.*

Hemp In Italy

AREA AND ESTIMATED PRODUCTION

A report from the American Consulate General at Naples says that definite information as to the 1939 hemp production is not available, because publication of pertinent statistics has been temporarily discontinued by the Italian Government. The area sown in Italy in 1939 was 90,470 hectares (of 2.471 acres), compared with 91,310 in 1938; the figures for the Naples consular district (Campania, Lucania Apulia, and Calabria) were 30,583 hectares in 1939 and 32,173 in the preceding year.

The local trade estimated that the hemp crop in the province of Naples in 1939 was about 40,000 tons, compared with 42,900 tons in 1938, and it is probable that this comparison is a fair indication of national production. The quality of the hemp in the Naples area was good in 1939. Although official prices for the 1939 crop had not been announced up to December 22, the trade expected that they would be approximately 20 per cent. higher than those of the preceding year. The market was active in December, 1939, with a heavy demand from Italian mills and a fair amount of business being done with Belgium, France, Great Britain and Germany.

During the first seven months of 1939 (later data probably will not be published for some time), exports of hemp raw and combed, and hemp tow from Italy totalled 28,750 metric tons, valued at 177,354 lire, a slight gain in both quantity and value over shipments in the corresponding period of 1938. Germany was the leading export outlet, followed by France, Great Britain and Belgium, named in the order of their importance.

Production of Flax In Denmark

NEW SPINNING MILL

WITHIN the past few years, flax growing has received considerable attention in Denmark where the soil and climate are considered favourable for this crop, says the *Industrial Fibres Review* in its February issue. The area sown to flax in Denmark in 1939 was about 1,400 acres, but the acreage would have to be from five to six times greater in order to cover domestic requirements of flax fibre.

Imports of flax and tow during the past two years have been slightly less than 3,000 quintals.

The small domestic production of flax has in the past been sold to foreign buyers, but a new spinning mill is expected to be in operation by next spring.

African Sisal

FRENCH AND BRITISH TO TAKE 70%

'SISAL Estates, Limited'' held its third annual meeting in London in the latter part of December, according to the London *Times*, when the Chairman *inter alia* stated:—

"The sisal requirements of the United Kingdom and France are at present estimated at 80,000 to 90,000 tons for 12 months, which is double the normal consumption and about 70 per cent. of the East African output. The margin of 40,000 tons for neutral account is likely to be a diminishing quantity, although at present there are fair supplies. Last year, I reported to you the formation in London of the Sisal Growers' Association, which includes not only all East African growers but also the London houses who largely finance the output and sell it in London. The primary object of the association is to put sisal on an economic price basis."

PHILIPPNIE HEMP EXPORTS

30 PER CENT. UP LAST YEAR

Baling of hemp in the Philippines during November last, according to figures supplied by the American Consulate at Manila, declined to 112,000 bales from almost 123,000 bales in October, but the 11-month total of 1,296,000 bales was 27 per cent. higher than balings in the corresponding period of 1938.

Exports declined in November to 93,400 bales, from 124,243 in the preceding month, the shipments to the United States dropping sharply, while exports in the United Kingdom increased. For January-November, 1939 exports totalled 1,246,600 bales, as compared with 961,661 bales during the corresponding period of 1938 ; an increase of 30 per cent.

NETHERLANDS EAST INDIES GUNNY BAGS

MILLS TO INCREASE PRODUCTION

According to the *"Het Nieuws van den Dag"*, dated December 16, 1939, the output of the Delanggoe mill, which is now producing 3 million bags annually, will be raised to 6 million bags.

The same thing is expected of the Tiedeman and van Kerchem combination which is producing gunny bags in the Nalang district.

A third plan is being considered in Banjoemas whereby the total production will be raised to 12 million bags during the course of 1940 and to 18 million bags in 1941 against the 30 million bags which are required annually.

In the meantime, use is made of paper bags for packing of various articles, for which purpose a factory has been established at Padang, which supplies bags for the cement industry, while tapioca is now also packed in paper bags.

Owing to the production of native bags, the Netherlands East Indies are getting more and more independent of the import of bags.

Manufacture of Gunny Bags in Thailand (Siam)

PROPOSAL FOR THE ESTABLISHMENT OF A FACTORY

IN forwarding a translation from the Bangkok vernacular daily newspaper "*Khao Phab*" dated March 3, 1940, the British Consulate-General at Bangkok says :—

"According to the enclosed translation, one of the reasons for this decision has been the recent promulgation in India of a decree prohibiting the exportation of certain articles from that country, including gunny bags, which has aroused apprehensions in this country regarding future supplies of this essential ancillary of the rice trade. It is known. however, that the Thai authorities have for some time had under consideration plans for the establishment of a gunny factory in this country, and, with this object in view, have been experimenting with local jute cultivation. These experiments in cultivation have, it is understood, achieved little success and the present intention of the authorities seems to be to import the necessary quantities of raw jute, presumably from India, for conversion locally into gunnies.

"It is to be noted that during the past five years imports of Gunny Bags into Thailand have averaged 50,000 bales annually at an average cost per annum of Ticals 5 millions and that these imports have been exclusively of Indian origin."

The English translation of the extracts that appeared in the "*Khao Phab*" is given below :—

"Not long ago the Government of India issued a decree prohibiting the exportation of certain goods. Gunny bags which we require for our rice are also among the list of articles banned against export.

"As we are experiencing difficulties on account of the shortage of bags, the Thai Rice Company is considering the possibility of manufacturing its own gunny bags. A meeting was held and it was decided to send Nai Chitt Kamolasiri, the Secretary to the Manager of the Thai Rice Company, and Nai K. C. Ma, Nai Ma Lieb Khun's brother, to India by aeroplane, to observe the manufacture of gunny bags. A scheme will be laid down by the Company to manufacture its own bags on the return of the two persons. It is believed that our bags will be of the same good quality as those imported from India."

Packing Material

ERECTION OF NEW FACTORY IN JAVA

An article appearing in *De Java Bode* of October 31, 1939, relating to the erection of new factories in Java for the manufacture of packing material received by the Director-General of Commercial Intelligence and Statistics, India, from His Brittanic Majesty's Commercial Agent, Batavia, is reproduced below :—

The problem regarding the supplying of the Netherlands Indies with packing material in times of distress in case the connections with foreign countries should stagnate has the special attention of the authorities.

This country needs for the export of commodities from 30 to 40 million bags annually so that if there should be a stagnation in supplies this would be a tremendous blow to the export trade because we would then have the commodities but not the packing material.

The bag manufacturing industry has been considerably developed in this country. In addition to the native industry which already turns out 4 million bags annually there are two European factories (one of the Klattensche Cultuur Maatschappij ; and one of the firm of Tiedeman and van Kerchem in East Java) which produce excellent rosella bags, the total production of which amounts to 6 million bags annually.

The production of these factories is now being raised.

Then there is an important native industry for the manufacture of mats which are used for packing tobacco.

The existing native production as well as the European industry does not produce in sufficient quantities to meet the demand, if the import be stopped, so that the erection of a third factory offers good prospects.

Plans by a concern of estate owners for the erection of a third factory for the manufacture of rosella bags are already far advanced. This factory will be established in Central Java.

In connection with the present circumstances a large stock of gunny bags has been accumulated for the Army as well as for the trade so that there need be no fear of an early shortage.

In an emergency case the reserve factory cf the Handelsvereeniging Amsterdam can be put into operation for the manufacture of sisal bags.

Trade Notes

CUTTINGS FROM THE BRITISH PRESS DURING FEBRUARY

Jute Cricket Pitches

The Secretary of the Lancashire and Manchester Schools' Cricket Association, Mr. H. F. B. Thomas, has received interesting details of the use of matting and concrete wickets from Trinidad and Blackpool.

Up to 1934 coconut matting was used exclusively in Trinidad, but in that year the club engaged the Australian A. J. Richardson as a coach. He persuaded them to try the jute matting, and they found it much better than the coconut. The surface is smoother and the weave is closer, with the result that the ball keeps lower and turns less, giving much more the effect of a good turf pitch. The mattings can be had in breadths of six or eight feet. In Trinidad they play on a clay pitch covered by the matting. For wet weather practices they have a concrete pitch which is used with either coconut or with jute matting. This is faster than the clay pitch but very true ; with the jute matting it is the nearest approach to a hard turf pitch. The concrete pitch with a matting is very satisfactory for teaching boys. One advantage that coconut has over the jute is that it can stand up to hard work longer. Jute mattings 220 yards long stretch and have to be cut; they are pegged down about half-way between the batting crease and the stumps. To make the ends last canvas is sewn on for about a yard at each end, as otherwise a batsman with pegs would soon rip up the jute. Eye-holes can be put in the mattings by strips of leather. The ends of the matting are pegged down, but with no leathers ; the leathers are used only on the sides.

J. Iddon states that he played in a Test-match in Trinidad in 1915 on jute matting and that, in his opinion, it gives the best artificial surface he has used.

The County Borough of Blackpool Parks Department have five concrete pitches in Stanley Park, and these were constructed because it was found impossible to prepare decent cricket pitches on ground which had been used for football all through the winter. The length of the concrete is eighteen yards by two yards. Two yards at each end are made of a mixture of "Terolas" (a bituminous binder) and ashed. This gives a resilient surface for both bowler and batsman, and they can wear ordinary spiked boots.

They started with the full twenty-two yards, but the experience of those who bowled on them was that they were too hard on the muscles of the legs through pounding down on the hard surface. These pitches were used several evenings each week by the Evening Cricket League and now that they have got used to them are appreciated by the players much more than the rough grass pitches were. The cost of laying varies from £7 to £10 each.

The joint between the "Terolas" and concrete is easily repaired when worn. The "Terolas" is kept slightly above the concrete so that the bat cannot catch or hit the edge. A ball that pitches so far up that it might hit the edge ought easily to be covered and driven by the batsman. If it is desired to convert the pitches into twenty yards for juniors the stumps could be fixed into the "Terolas" mixture quite as easily as into clay.

Blackburn has similar pitches. For the ends there is an inch and a half of ordinary asphalt topped by an inch and a half of fine asphalt.

Linen

The only linens now available for home trade are stocks of cloth and of yarn bought before the introduction of control. Once these are cleared civilian consumers will be offered substitutes. There has already been a huge diversion of plant in Northern Ireland from linen to substitute fibres, particularly cotton and rayon as well as jute mixture.—"*Manchester Guardian*".

Cloth without Weaving

Another use was announced recently for cotton, one of the world's most versatile fibres.

But the new development, an American process for chemically welding waste cotton into sheets of fabric, is more likely to be of use to Goering in his search for textile substitutes than to textile firms in Lancashire or elsewhere in Britain.

The new process, described in a *Reuter* message from New Brunswick (New Jersey), consists of arranging fibres into parallel lines and then chemically welding them together to form a laminated sheet fabric.

The displacement of jute by chemically processed cotton fabrics is predicted. It is said that manufacturing costs will be low. The new process is applicable to wool and rayon as well.

Jute, largely processed in Scotland, is used for canvas bags, lining for men's coats, backings for carpets, etc., and Mr. Thomas Ashurst, Director of the Cotton Spinners' and Manufacturers' Association in Manchester, pointed out to the *Daily Despatch* that it remained to be proved whether the new cotton substitute would possess all the strength, lasting qualities, and resistance to damp of jute.

Presumably the new substitute would be made out of cotton linters, the very short stapled fibre coming from the cotton seed-pod.

Some other uses of linters, Mr. N. Pearse, Secretary of the International Federation of Cotton Spinners and Manufacturers, stated, are for felt hat fibres, gun-cotton, gramophone records, and even face powder is now made from linters (which were known once as waste cotton) the cellulose being powdered.—"*Daily Despatch*".

Elevators

Jute, to the great advantage of growers in India, has more than doubled in price, owing to the sandbagging of London and other British cities. Victoria wheat growers have normally spent large sums annually on jute sacks for their wheat, which would have cost them well over £500,000 this season, had not bulk handling of wheat come to their rescue just in time, by making it unnecessary to bag their grain. In 1934, the Government authorised the building of 81 elevators to store loose wheat at a number of country railway stations at the cost of £650,000, and a terminal elevator at the port of Geelong, on Croio Bay, Port Philip, about 40 miles from Melbourne. All but nine or ten of the country elevators were ready in December. They probably are all ready now. So is that at Geelong, which cost £450,000 to build. It can take in 22,000 bushels an hour, holds 2¼ million bushels and can pour it out into the wheat ships' holds at the rate of 65,000 bushels an hour. If ships are ready to take the wheat away all will go smoothly in Victoria and in other Australian States If transport is not available there will be congestion, and some bags will be needed after all. Victoria's wheat crop, reduced to 18 million bushels last season by bush fires and drought, this year will be over 40 million bushels, and the Australian crop as a whole over 200 million bushels, the third largest in Australian agricultural history—"*British Australian and New Zealander* '.

German Paper Fabrics

With jute supplies from India no longer available, the 25 German jute-spinning mills are deprived of their essential raw material. The "*Westdeutsche Beobachter*" reveals that the stoppage of jute supplies has found this branch of German industry not unprepared. For a considerable time experiments have been carried out within the framework of the Four-Year Plan with a view to replacing this material by ersatz-fibres.

The industry was, therefore, in a position to adjust itself quickly to the new situation and manufacture, first, fabrics of a mixture of jute, flax, and hemp, and later fabrics made entirely of paper. If impregnated these fabrics can to a great extent resist destruction by water.—"*Glasgow Herald*".

Jute Sacks Quota

The import of non-French jute sacks and fabrics into French West Africa has been fixed at 75,000 quintals for the year 1940. Of this quantity the share from the United Kingdom is fixed at 17,365 quintals and the schedule includes new jute sacks, tissues of jute, abaca, aloe, textilose and other vegetable fibres not specified in the Tariff ; tissues coarse and for packing.—"*West Africa*".

Monthly Notes on Progress of Schemes

THE following is a short review to indicate the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

There is nothing special to report. The office has been busy with matters arising from the main Committee Meetings held on March 6 to 8 and in clearing up accounts following the end of the financial year.

A meeting of the Jute Prices Stabilisation Sub-Committee has been called for April 24th, the earliest date which appeared generally suitable for members.

Marketing and Transport

First Marketing Report : Since the General Meeting which concluded on 8th March the staff of the section have been engaged exclusively on the work of revising the first draft of this report in the light of amendments agreed upon at meetings of members of the Special Sub-Committee who reviewed it during the month of February.

This work was completed by the end of the month but as the first draft was prepared by several members of the staff, it was considered essential that it should undergo literary editing by one officer only to ensure uniformity of expression and style throughout the report. This has been undertaken by the M. O. and the work is now well advanced.

A new feature of the section's work was the preparation of an exhibit for display at the Department of Agriculture of Bihar's exhibition recently held at Sabour. This consisted of a comprehensive range of samples of raw fibre and finished jute goods, a set of statistics with diagrams, fifty photographs illustrating the various processes of jute cultivation, its marketing, baling and subsequent manufacture into cloth and bags. Messrs. Jardine Skinner & Co., Messrs. Barry & Co., and the Research Department of the Indian Jute Mills Associations very kindly supplied a wide range of fabric samples and this was much appreciated.

Agricultural Research

The weevil of the jute apion bores a hole in the stem and lays an egg within the hole. The grub that emerges from the egg within three to four days, feeds on the tissues of the stem, damaging the fibre. In some cases the top shoot dries up and the plant dies. Where the shoot does not wither, the fibre becomes 'specky' having numerous black specks each speck corresponding to a puncture. At the point of the puncture often mucilaginous substance is accumulated which binds the fibre strands together. As many as thirty punctures have been observed on a single stem, and seventy-five per cent. of the plants are damaged. The weevil attacks even young seedlings having two or three leaves. Most of the growers of jute are not aware that 'specky' fibre is caused by an insect. After considerable investigation it has been found that this weevil passes the winter hiding in hedges and bushes of such plants as *Duranta*, China Rose *(Hibiscus* *rosasinensis)* which is a very common plant in Bengal. If Bon-okra *(Truimfetta rhomboidea)* plant is available, the weevil feeds on its leaves. Destruction of *Duranta, China* Rose, and Bon-Okra, during the winter will prove very helpful in controlling this pest.

Technological Research

The spinning trials on the 1939 crop fibre samples received from Dacca are nearing completion and a range of samples representing commercial qualities will shortly be tested.

A start is being made with the examination of the root portion (20%) cut off from all the samples in the second series of spins on the 1938 crop Government Farm samples. An assessment of the quality of this root portion together with the results of the yarn and fibre tests on the remaining portion should give a reliable indication of the quality of the fibre as whole.

The work on the moisture content of a second set of five samples of fibre, after conditioning at a range of relative humidities and at two different temperatures, is nearing completion.

The lustre-photometer ordered for the purpose of measuring and recording the lustre or gloss of fibre samples has now been received.

Further tests on yarns spun from blended jute and flax have shown that when the method of blending is suitable the effect of the addition of the stronger flax fibre is fully shown up in the improved yarn strength.

Improvement of the Jute Forecast

A meeting of the Jute Census Committee was held on April 3rd. The new Field Supervisor, Mr. S. K. Banerjee joined on that date. Mr. Ganguli, Statistical Assistant in the Secretary's Office has been assisting in the Jute Census work in order to push matters forward as quickly as possible. The recruitment of staff for the field survey is being taken up.

Statistics and Information

A report on the world consumption of jute in 1938-39 was prepared by the Assistant Economics Officer. As the report will be published in the form of a Statistical Bulletin, it was made ready for circulation to the Publications Sub-Committee.

The collection of statistics and information for the Bulletin proceeded on usual lines. A beginning has been made for a systematic collection of materials for a special study of jute substitutes and competitors.

Publicity

The Assistant Publicity Officer attended the meetings of the Committee held on March 6 and 8, and prepared and distributed Press-Notes on the proceedings each day, which were promptly, and prominently, published in the English and Vernacular Press. Thanks are particularly due to the "Statesman", "Amrita Bazar Patrika", "Hindusthan Standard" (English), "Azad", "Ananda Bazar Patrika", "Bharat" (Bengali), "Daily Asr-e-Jadid" (Urdu), "Assam Times" and "New Orissa", who, in spite of the great pressure on space due to the war, found it possible to feature the Press-Notes in their columns.

Thanks are also due, amongst others, to "Capital" and Bombay "Commerce", who have consistently extended the courtesy of giving publicity to the contents of the Bulletin and Press-Notes. The "United Press" and the "Associated Press of India" have also co-operated beyond expectations in circularising materials sent out by this Section throughout India; as this Section does not subscribe to all the important daily papers in India, except those in Bihar, Orissa, Assam and Bengal, it is not possible to gauge to what extent the co-operation of the two News Agencies mentioned above have helped the Committee in other parts of India.

Besides the Press-Notes mentioned in the first paragraph two other important Press-Notes were prepared and distributed during the period, viz., (i) Prof. Hotelling's appraisement of the Committee's scheme for the improvement of the jute forecast; and (ii) Infection *within* jute seed.

The proposal to issue a Bengali supplement of the Bulletin each month has had to be held up until Mr. Ganguli, the Senior Assistant of this Section, is released from the Committee's Jute Census work, to which he has been deputed at the request of Prof. Mahalanobis. As it is, the existing staff is hard put to it to cope with the growing work of this Section.

The Index to the last twelve issues of the Bulletin, ending with March, 1940, is in the course of preparation, and is expected to be ready in time for issue with the next number of the Bulletin.

INDIAN CENTRAL JUTE COMMITTEE

◆

Bulletin No. 2.

◆

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◆

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CONTENTS

Page.

Indian Prices During April 67
Production and Consumption of Jute 69
Movement of Prices 70
Index Number of Prices 72
Jute and Hessians Prices to be fixed 73
I. J. M. A's Protest 75
Conference at Darjeeling 76
Industrial Disputes in India 79
The Fibre-Agaves 79
International Trade in Agricultural Products ... 89
World Trade in Textile Fibres 90
World Cotton Acreage 91
U. S. A. 92
Imports of Jute Bag into U. S. A. 95
U. S. Cotton Bag Exports 96
Secondhand Bags 96
Jute and Hemp Market in U.S.A. 97
American Jute Market in 1939 98
U. S. Import of Burlap 113
Jute *vs.* Cotton 113
Treatment of Sack cloth 115
Conditions Affecting Jute in Argentine 117
Cordage Manufacture in Argentine 121
Sack Industry in Canada 123
Henequen Trade in Mexico 124
Mexican Sisal Shipment 124
Binder Twine 125
Sugar Bags—Cuban Requirement and Price Control ... 125
British Opinion on Jute Trade—Survey of Conditions ... 126
Dundee Prices 128

PAGE.
Making Textiles Water Repelent—New Processes ... 129
Hessian for Road Reinforcement 132
Sandbags to destroy Dunes 134
Flax Production in New Zealand 135
Jute Import into Australia 135
Cotton Bags for Peas 136
Dutch Jute Trade 136
Import Restrictions in Greece 137
Hemp Trade in Philippines 138
Manila Hemp Market 139
China—Imports of Jute and Substitutes 140
Ramie—Australian Factory to produce cloth ... 140
Trade Notes 142
Monthly Notes on Progress of Schemes 143

JUL. 1940

Bulletin No. 2, Vol. III.

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New Delhi

Indian Prices During April

STEADY TRADING CONDITION

LOOSE JUTE

DEMAND for old crop was fairly steady during the month and mills were reported to have purchased a fairly large proportion of the lots offering. This even demand was reflected in the prices which, over the period, ruled steady.

The month opend with rates as follows :—

(Indian)		Jat	District
		Rs. as. p.	Rs. as. p.
Middle	...	11 10 0	10 4 0
Bottom	...	9 8 0	8 8 0

With mills, however, as buyers these prices appreciated and business for the above grades was reported at Rs. 12/8/- and Rs. 9/8/- for Jat Middle and Bottom and for District Bottom at Rs. 8/8/-.

New crop was bought by mills in limited quantities and in this section too a rise in prices was recorded. Conditions for the crop were excellent in the early part of April, but later in the month a scarcity of rain in the principal growing areas was considered to be retarding growth and highland sowings were suspended. At the close of the month, mill enquiries had slackened off resulting in prices declining. Business was reported at the following rates :—

Indian Jat Middle	Rs. 11 4 as. to Rs. 11 8 as.	July-August delivery
District Middle	Rs. 10 0 as. to Rs. 10 12 as.	

On 30th April rates were quoted as follows :—

Old Crop

(Indian)		Jat	District
		Rs. as. p.	Rs. as. p.
Middle	...	12 12 0	12 0 0
Bottom	...	10 4 0	9 4 0

New Crop

(Indian)		Jat	District	
		Rs. as.	Rs. as.	
Top	...	12 4	11 12	July-Sept. shipment.
Middle	...	11 4	10 12	
Bottom	...	10 4	9 12	

JUTE FABRICS

A fair quantity of near delivery hessian was sold during the month for export to overseas consumers. This had the effect of steadying prices for this type of fabric throughout the period under review. The movement of prices during the month in this market is indicated in the rates quoted for ready 8 oz. 40″ hessian :—

Opening	...	Rs. 12	7 as.	per 100 yds.	
8th April	...	,, 13	1 ,,	,,	
10th ,,	...	,, 14	4 ,,	,,	
15th ,,	...	,, 13	12 ,,	,,	
23rd ,,	...	,, 13	0 ,,	,,	
30th ,,	...	,, 13	3 ,,	,,	

Heavy goods, however, have not commanded attention from consumers but the rise in hessian has sustained sacking rates. Only small lots of B. Twills, Heavy Cees and Cornsacks were reported done for seasonal months.

The trend of prices during the month was as follows :—

		Heavy Cees	A. Twills
Opening	...	Rs. 34 0 as.	Rs. 44 12 as.
8th April	...	,, 35 4 ,,	,, 45 4 ,,
15th ,,	...	,, 36 8 ,,	,, 45 8 ,,
23rd ,,	...	,, 34 6 ,,	,, 44 0 ,,
30th ,,	...	,, 35 4 ,,	,, 45 0 ,,

PRODUCTION AND CONSUMPTION OF JUTE

RAW PRODUCE

According to the *Indian Trade Journal* jute arrivals into Calcutta and mills outside the Calcutta trade block (excluding road arrivals and arrivals into mills by boats) were as follows :—

From 1st July, 1939 to 4th May, 1940 ...	9,594,000 bales.
From 1st July, 1938 to 4th May, 1939 ...	8,667,000 bales.

MANUFACTURED GOODS

Manufactures of jute goods during April, 1940 by the mills reporting to the Indian Jute Mills Association are given below :—

Sacking Bags (in 1,000s)	52,141	or 54,137	tons
Hessian Bags (,, ,,)	63,611	,, 13,809	,,
Sacking Cloth (in 1,000 yds.)	7,239	,, 3,088	,,
Hessian Cloth (,, ,, ,,)	133.367	,, 35,482	,,
Others ...	...	2,384	,,
Total ...	...	108,900	,,
Total during March, 1940	...	118,608	,,

The following are the **stocks of manufactured goods** (cloth and bags) as reported to the Indian Jute Mills Association by its members :—

	End of Apr.		End of Mar.	
	1940	1939	1940	1939
Sackings (lacs of yds.)	1,797	1,350	1,760	1,275
(tons)	76,867	56,762	76,323	...
Hessians (lacs of yds.)	3,194	4,811	3,405	4,937
(tons)	77,617	116,586	82,806	...

Movement of Prices

JUTE AND OTHER COMPETITIVE FIBRES

THE abnormal rise in jute prices during recent months has placed other fibres competing with jute in a favourable position. The table appearing on page 71 of monthly average prices in London of jute, cotton and hemp shows the relative advantages gained by these fibres, as far as price is concerned, since the outbreak of war.

Prices of all fibres mentioned in the table were on the whole depressed during 1938 and the early part of 1939. The upswing came suddenly in September 1939 and the cause for this may be traced directly to the outbreak of war. Since then prices rose sharply, but there were variations in range and movement of prices of the different fibres.

During nine months from July, 1939 to March, 1940, the maximum rise in price above the minimum was 128% for jute, 70% for cotton, 108% for manila, 42% for Bombay and 78% for sisal. Jute prices fell sharply in February followed by another rise in March. Cotton declined steadily from February. The rise in manila price was short-lived and since November the price has been declining steadily from month to month, except for a slight rise in January. Bombay H.J.F. values fell moderately in March after a steady and continuous rise for the previous five months. Sisal prices remained stationary at £26 per ton since November. This price was fixed by an arrangement between the United Kingdom Ministry of Supply and the Governments of Tanganyika, Kenya and Uganda for supplies of sisal to U. K. and France. It was also intended to be the minimum price for sales to countries other than U. K. and France. (cf. *Bulletin* No. 10, Vol. II, p. 226).

Prices in March, 1940 were at a fairly high level compared to the pre-war prices. March prices exceeded those of August in the following proportions:—

Jute	Cotton	Manila	Bombay	Sisal
91%	48%	40%	37%	78%

It is clear that the price of jute in March was proportionately higher than those of the other fibres.

Average Prices in London.

Commodity.	Unit.	July 1939	Aug. 1939	Sept. 1939	Oct. 1939	Nov. 1939	Dec. 1939	Jan. 1940	Feb. 1940	March 1940
Jute :—										
First Marks	£ & s. per ton.	25 - 0	20 - 17	22 - 0*	...	40 - 10	47 - 3	47 - 10	33 - 9	39 - 18
Cotton :—										
American Mid. ...	d. per lb.	5·48	5·22	6·60	6·34	6·88	8·51	8·85	8·18	7·74
Hemp :—										
Manila "J2"	£ & s. per ton.	17 - 4	17 - 6	21 - 0	35 - 15 (*a*) 20 - 0 (*b*)	32 - 10 (*a*) 20 - 0 (*b*)	28 - 10	28 - 18	25 - 15	24 - 6
Bombay H. J. F. ...	,, ,,	18 - 0	17 - 10	*	22 - 7 (*a*) 18 - 0 (*b*)	22 - 10 (*a*) 18 - 0 (*b*)	24 - 0	24 - 3	24 - 18	24 - 0
E. African Sisal No. 1 ...	,, ,,	15 - 7	14 - 18	17 - 0	26 - 10 (*a*) 19 - 0 (*b*)	26 - 0 (*a*) 19 - 0 (*b*)	26 - 0	26 - 0	26 - 0	26 - 0

* Nominal. (*a*) Free Market Price. (*b*) Control Price.

Source : "The Statist"—Average of weekly quotations.

Index Number of Prices

CALCUTTA JUTE

(*Base: July, 1914 = 100*)

Year	Raw Jute (1)	Manufactured Jute (2)	Ratio % of (2) to (1) (3)
Average of 1914-18 ...	77	140	182
„ „ 1919-23 ...	100	142	142
„ „ 1924-28 ...	114	156	137
„ „ 1929 33 ...	59	88	149
„ „ 1934-38 ...	49	69	141
„ „ 1939 ...	80	102	128
Av. of Jan.—Aug., 1939 ..	70	80	114
September, „ ...	77	117	152
October, „ ...	76	126	166
November, „ ...	119	175	147
December, „ ...	130	172	132
January, 1940 ...	124	146	118
February, „ ...	130	130	100
March, „ ...	100	114	114

The spectacular rise of jute prices during the first four months of the war was followed by a rapid decline during the first quarter of 1940. The average price of jute manufactures in March had fallen below the level attained in the opening month of the war. In February, 1940, the prices of raw and manufactured jute were on par, but within a month, *i.e.*, in March, the price of raw jute declined by 23% and that of manufactured jute by 12%.

Jute and Hessians Prices to be Fixed

BENGAL DECISION

GOVERNMENT EXPLAIN THEIR INTERVENTION

THE Government of Bengal have decided to take steps to fix minimum and maximum price for jute and for hessians in the futures markets, states the *Statesman* of May 11.

This information is contained in a communication addressed by the Government of Bengal, Agriculture and Industries Department, to all interests represented at a conference recently held at Darjeeling to consider the question of stabilisation of jute prices.

It is stated that the object of the fixation of a minimum price for hessians "is to prevent the depression of hessian prices by speculation in the immediate future and to secure to the industry a reasonable margin of profit.

"Government intend to fix Rs. 60/- and Rs. 13/- as the minimum and Rs. 90/- and Rs. 21/- as the maximum prices for jute and hessian futures respectively. This step is not to be regarded as an isolated act on the part of Government but in furtherance of their general scheme.

"The comprehensive scheme which is at present engaging the attention of Government is a scheme fundamentally based on the principle of regulation of production and the relentless application of that principle over a long term.

"It will deal with the following among other matters:—regulation of futures markets; arrangements for purchase by Government of all offers of jute at a minimum price; fixation of grades of jute and jute goods for internal and export markets; and steps to be taken to eliminate adulteration, particularly the watering of jute.

"The above list of items is not exhaustive but merely indicative of the scope of the scheme contemplated. Government further desire it to be generally understood that their policy in relation to jute is a long-term policy and must not be regarded as one applicable only to the next crop or two.

"Government have invited practical suggestions from all interests towards the formulation of their comprehensive scheme."

GOVERNMENT'S VIEWS

In the course of their letter Government state: "As regards the immediate question with which Government are concerned, namely, the securing of prices for the 1940 crop at a level which would be reasonable for the grower, the arguments advanced against the necessity for any action by Government followed the general lines given below:—

"The 1940 crop is now estimated by all sections of the industry to be likely to yield about 125 lakhs of bales; mill stocks are short and ill-assorted, therefore, mills are anxious to replenish their stocks; the war and general world demand together will probably absorb nearly the whole of the crop and the prospects of any serious slump in raw jute prices during the next season are remote.

"Government have carefully considered this argument and have also taken into account the fact that no practical suggestions were forthcoming as to how, in the event of the failure of the above forecast of supply and demand to materialize, Government could prevent a collapse of raw jute prices except by the method which Government already had in mind, that is to say, the fixation of new crop prices. Further, no assurances were forthcoming that any interest or interests in combination would undertake to buy the jute of the 1940 crop at or above a certain reasonable price or between any given limits.

"In these circumstances, Government feel that the case against intervention by Government has failed to satisfy them and must be rejected.

"Those interests represented at the Conference who appeared to favour intervention by Government for the purpose of preventing a fall in prices argued that fixation of prices would not in itself suffice to achieve Government's object. In some cases it was stated that Government intervention would only be justified if Government formulated a comprehensive scheme and it was said that support might be accorded to such a scheme even if it contained proposals for fixation of minimum prices. Suggestions were made from some interests that Government's intervention should take the form of (*a*) price control and (*b*) purchase of surplus crop. No comprehensive scheme was placed before the Conference nor were any practical suggestions made as to the method of putting into operation the special measures of price control and purchase of surplus crop. Concrete proposals on these subjects were, however, invited by Government for consideration.

"As a result of the Conference and after careful consideration of the views expressed thereat, Government have decided to intervene to prevent prices from falling and to secure the future stability of the industry in the interests of all concerned."

" VIEWED WITH CONCERN"

INDIAN JUTE MILL ASSOCIATION'S PROTEST

The decision of the Government of Bengal to fix minimum prices for jute and hessians at Rs. 60/- and Rs. 13/- respectively is "viewed with concern by the trade in general", according to Mr. W. A. M. Walker, President of the Indian Jute Mills' Association and leader of the European group in the Bengal Legislative Assembly.

In a statement to the *Associated Press* dated May 12, Mr. Walker says :—

"The decision of Government as expressed in a letter dated 9th May received by my Association from the Secretary to the Government of Bengal, Agriculture and Industries Department has caused profound apprehension and concern to the trade in general. It was hoped that as a result of the strong views expressed at the Conference held in Darjeeling on 4th and 5th May, Government would have respected the opinions expressed by the vast majority of the trade. Representatives of practically all sections of genuine trading interests voiced the opinion that Government intervention in the matter of fixation of minimum prices was entirely unwarranted at the present juncture and that they apprehended no necessity for such action in the near future. They stressed the view that Government intervention was wrong in principle and likely to act to the detriment of the ryot, the industry and the province as a whole.

"The Indian Jute Mills Association are preparing a reply to the letter from Government in which their intentions are announced and a copy of this communication will be issued to the press in due course."

CONFERENCE AT DARJEELING

GOVERNOR ON CULTIVATOR GETTING A BETTER PRICE

His Excellency Sir John Herbert, Governor of Bengal, opened a conference at Darjeeling on May 4, called by the Government of representatives of associations interested in jute, says an official *communique.*

His Excellency in opening the conference, stressed the importance, from the point of view of all parties concerned, under present conditions of securing to the Bengal cultivator a reasonable price for his jute and to the industry a reasonable margin of profit without raising the prices for manufactured goods to a level, which would be injurious to the industry and thus to the raiyat, as he understood the present position. He was advised that the Government in the present circumstances must either take action with this end in view or be convinced that action was not necessary.

The question before the conference was whether special measures were necessary and, if so, how far the various sections interested in jute could co-operate, in putting them into effect. After a statement of the Government's attitude by Mr. Tamizuddin Khan, the preliminary point of view of various associations was stated by their representatives and the conference adjourned till the following day.

Mr. H. S. Suhrawardy, Commerce Minister, also addressed the conference and enunciated the policy of the Government.

The following attended:—Mr. W. A. M. Walker, Mr. A. P. Benthall (Indian Jute Mills Association), Sir Adamjee Hajee Dawood, Mr. M. A. Ispahani (Moslem Chamber), Mr. N. C. Ghosh (Bengal National Chamber), Mr. Rameswarlal Nopany, Mr. Keshab Prasad Goenka (Indian Chamber), Mr. J. E. Ordish (European Mofussil Jute Balers Association), Mr. J. A. Ruthven, Mr. S. M. Mohta (Calcutta Baled Jute Association), Mr. Bhimraj Sethia, Mr. Gobindchand Bora (Jute Balers Association), Mr. H. L. Robertson, Mr. D. G. Buchan (Calcutta Jute Fabric Shippers Association), Mr. P. N. Flangine, Mr. R. Fleming (Calcutta Baled Jute Shippers Association), Mr. Mukundlal Chirapal, Mr. Ramnath Bajoria (Marwari Association), Mr. Danchand Chopra, Mr. B. M. Singhi (Bengal Jute Dealers Association), Mr. Tulsidas Jewraj, Mr. M. L. Chharia (Gunny Traders Association), Mr. J. A. Barnet (Jute Fabric Brokers Association), Mr. C. H. Thomas (Calcutta Jute Dealers Association), Mr. H. P. Bagaria, Mr. Nandlal Kasera (East India Jute Association), Mr. Madanlal Khemka, Mr. R. N. Gaggar (Marwari Chamber), Mr. Ramshahaimull More, Mr. Madanlall Sakseria (Calcutta Hessian Exchange), Mr. J. H. Burder (Bengal Chamber), Mr. Bilasrai Poddar and Mr. Dungarmull Ganodia (Calcutta Jute Exchange).

On the following day when the conference re-assembled, it was stated on behalf of the Government that the fullest consideration would be given to the views expressed by the various interests represented. It was further stated that the policy of the Government in relation to jute was to look not only to the interests of the grower but also to those of the manufacturer and of the industry in general for the benefit of all concerned.

Suggestions were invited on behalf of the Government from all interests engaged in the trade and industry as to the practical steps that might be taken to achieve the object of the Government's policy. It was declared that the Government would give most careful consideration to any such practical suggestions received from responsible quarters.

The conference concluded with a strong appeal made by the Ministers for Agriculture and for Commerce for the greatest possible degree of co-operation by all sections of the industry in the furtherance of the Government's policy, the declared aim of which was not only the betterment of the condition of the growers but also improvement of the conditions in the industry generally and thereby ensuring the greater prosperity of the province as a whole.

Munshiganj Jute

According to a United Press message, dated April 30, coming from Munshiganj, the prospect of the jute crop in that sub-division is quite gloomy this year. During the latter portion of February last there was excessive rain for several days together which completely submerged the low-lying areas and the standing jute plants and 'til' plants were totally destroyed. Paddy seeds had to be resowed in these areas. Since then there has been not a drop of rain and the jute and other crops in high and middle lands are getting dried up. The jute plants have barely reached a height of two feet. Flood water will come in early June. The total out-turn of jute this year will not be more than half of that of the last year.

INDUSTRIAL DISPUTES IN INDIA

JUTE AND TEXTILES SUFFER MOST

Reviewing industrial disputes in India during the last quarter of 1939, a Press-Note issued by the Government of India on May 11 *inter alia* states that the number of disputes during the period was 110, involving 169,000 workers. Nearly 824,000 working days were lost. During the corresponding period in the previous year 1,991,000 working days were lost in 136 disputes affecting 1,24.000 men.

Textile and Jute Mills account for 45·5 per cent. of the disputes, 80·4 per cent. of the workers were involved and 77·1 per cent. of the working days lost.

In figures the number of disputes that the jute mills were involved was 27 affecting 90,810 workers, and the days lost were 318,011. Twenty-five of these disputes were unsuccessful and the remaining two "practically successful".

The Fibre-Agaves

ECONOMIC AND CULTURAL CONSIDERATIONS

(Contd.—from the last issue of the Bulletin)

III.—UTILIZATION OF HARD FIBRES

THE utilization of hard fibres varies according to different countries.

In the United States of America and Canada, *Henequen*, is used more than any other fibre in the manufacture of binder twine (600 to 650 feet per pound) for harvesting grain. There was an ever increasing demand for this purpose from 1888 to 1916 when wheat prices, like nearly all prices, were rising. Since then there have been periods of over-production and also periods of scarcity. However, the increasing use of the "combine" (combined harvesting and threshing machine), is reducing the demand for binder twine. Moreover, the rapidly increasing production of sisal has resulted in serious competition for *Henequen.* Now both fibres, alone or mixed together with or without *Abaca,* are also used for hammocks, general purpose ropes, halter ropes and to some extent for marine cordage. Finally in the United States we find sisal used in combination with cotton for the manufacture of coarse canvas and of sacks.

In the United Kingdom, the next largest consumer, the depression of the sisal industry in 1930-31 led to an examination of the possibilities of developing new industrial uses for sisal fibre. In other countries such as Holland efforts have been made to use sisal as a substitute for jute and to break its monopoly in sack manufacture. But such a policy would not be appropriate for Britain, as jute is also an Empire-grown fibre plant. Therefore, the Imperial Institute of London has made efforts to find other uses for sisal and to diminish reliance on Manila hemp, which is not much grown within the Empire. For this reason the Admiralty was induced to undertake experiments in order to overcome the prejudice against the use of sisal for marine cordage.

These experiments have given good results, and the tests covered a wide range as over 100 ships and other users participated in them. Incidentally, a good many complaints arose, but only four instances of actual parting of the cordage during use were reported. The following defects can, however, be definitely regarded as peculiar to marine cordage made exclusively from sisal:—

(1) It shrinks in length when wet and requires continual care in wet weather.

(2) It swells when wet.

(3) It elongates considerably under load, particularly when wet, and in some cases becomes definitely long-jawed. Under some conditions it tends to return to size after the load is removed, but generally the extension is more or less permanent.

(4) It becomes greasy and slippery and is difficult to handle when wet, and greater care is necessary when working it round a cleat or bollard.

(5) After prolonged use it tends to chafe and fray and becomes discoloured.

ADMIRALTY'S RECOMMENDATIONS

On account of these results, the Admiralty has made the following recommendations :—

"In considering the results of the trials the question of sisal being an Empire product must be given prominence. If the two fibres, sisal and Manila, were on equal footing as regards their origin, the results would not warrant any departure from the existing practice. As, however, the policy of the Admiralty is to give a preference to Empire products the results are sufficiently promising to warrant the partial adoption of sisal, and (so long as supplies of sisal can be obtained at satisfactory prices) arrangements are being made for 50 per cent. of the Service requirements for towing hawsers, heaving and hauling lines to be made from sisal, as also for its entire adoption in the manufacture of much other cordage of minor importance in navigation."

Again in 1933-34, the Admiralty made experiments in order to ascertain the capacity of sisal to absorb tar and to test whether cordage so treated would have its weather-resisting properties increased. To carry out the tests, four

120-fathom coils of 3-inch cordage were manufactured. All the yarn used for this purpose was from the same delivery of No. I East African sisal. Two of these coils were tarred and two untarred. The two tarred coils were prepared in the usual manner, i.e. the yarn passed through a bath containing archangel tar. The quantity absorbed by the fibre was 12·87 per cent. of the weight of the finished coil. During the process of manufacture a batching compound was used, about 4·5 per cent. being used for dressing the fibre which was subsequently tarred, and 12·5 per cent. for the untarred fibre.

The initial strength of the untarred yarn before manufacture into cordage was 175·4 and of the tarred 163·6 lbs. Strands removed from the cordage at the end of the nine months' test period gave the following results (average of ten tests) :—

		Sea Exposed	*Roof Exposed*	*Storage Conditions*
Untarred	...	72·0	95·0	161·0
Tarred	...	132·5	139·5	150·5

The Admiralty considered the results of these tests sufficiently satisfactory to warrant consideration of the general adoption of tarred sisal cordage in lieu of tarred hemp cordage, and enquiries are now being made as to the extent to which each substitution can be effected.

IN JAPAN

In Japan, the third largest consumer, importing some 70,000 tons of hard fibre, this commodity is used principally for marine cordage, but also for many other products such as coarse canvas, mats, blinds and brushes. In Japan too sisal has been largely used for the manufacture of braids used in the ladies' hat industry. Small factories for this purpose have sprung up in Japan due to the encouragement and activities of the Home Industrial Association of Japan, and the braids made are shipped to all parts of the world. The use of sisal for the manufacture of shoe tops is also recorded in Japan.

In Belgium such of the import as was not re-exported as raw fibre was absorbed by the large textile industry and mixed with the waste of other fibres. In 1937, 13,702 metric tons of mixed fibres were manufactured into ropes, cables and lines and exported to Norway, France and England ; 8,531 metric tons were used in the production of coarse yarns, half of them exported to France ; and the remainder were used for mats and carpets.

In Germany, the bulk of the imported hard fibre (mostly sisal) is used for marine cordage, the German navy having been equipped exclusively with sisal ropes during the Great war. The rest is manufactured into binder twine, general purpose lines and strong coarse threads.

IN HOLLAND

Of the other importing countries, Holland chiefly deserves mention on account of the investigations being made in the mother country and the colonies into the manufacture of sacks out of sisal fibres. However, this plan is by no means new. In 1933 it was reported that some 50,000 sugar sacks were on the way to, or had been landed at Liverpool, and that there were some 3,000,000 sacks in Mexico to be used for packing produce for shipment. These sacks were manufactured under Government instruction in order to restrict the import of jute.

Also in Columbia, a local industry for the manufacture of sacks has grown up amongst the native population ; and during the war, in 1918, it was recorded that Bucaramanga exported over 1,000,000 sacks, and another town exported over 200,000 representing 1,200 tons of fibre. In 1932, the Government of the Dutch East Indies ordered that experiments be begun in the manufacture of bags from sisal fibre by prison labour. This has been started especially on the island of Madura where many wild or semi-cultivated agaves grow, and where the State salt monopoly requires some hundreds of thousands of coarse bags each year. Owing to the cheap prison labour the yarn is spun by hand and only industrially woven on looms in the prison of Pamekasan. The production was as follows :—

1934	... 150,000	large bags	
1935	... 210,000	,, ,,	and 6,000 small bags
1936	... 300,000	,, ,,	,, 8,000 ,, ,,

The large bags measure 107·5 cm. by 75 cm. and the small ones 60 cm. by 75 cm.

In the year 1933 the Handel Vereeniging Amsterdam reported the installation of an experimental factory equipped with modern English plant for the manufacture of bags in Java.

But in Rotterdam already as early as 1927 a sisal rope factory tried to introduce the manufacture of bags, and it is said to have exported sisal bags to America. Also this factory has begun to deliver sacks to the dealers in coal for domestic uses, the bags being superior for this purpose to the jute bags formerly used.

On the strength of these efforts to look for a market for the hard fibres, the Trade Museum of the Colonial Institute of Amsterdam induced some importers to initiate experiments with sisal bags in the overseas trade in colonial commodities. Accordingly small lots of pepper, copra and nutmegs were shipped from the Dutch East Indies to Rotterdam and small lots of coffee and oil-palm kernels from the Congo to Antwerp.

The bags had an average size of 105 by 70 centimetres and an average weight of one kilogramme, corresponding to a weight of 680 grammes per square metre. Jute bags from Bengal showed the following figures :—

A twills	110×65 cm.	1·19 kg.	=830 gr. per sq. m.
Light C	100×70 cm.	0·91 ,,	=650 ,, ,, ,, ,,

Thus, as regards weight, the sisal bag did not compare unfavourably with the jute bag. However, it was anticipated that the sisal bag, being less smooth and flexible, might be harmful to the content.

With regard to pepper, this harmful effect proved to be negligible, and the opinion of the consignee was completely favourable.

In the case of cocoa, a commodity of superior quality, the sisal bag was considered to behave less favourably. The bags were too badly and loosely woven, and the slight damages so easily done to the bag by handling in transport and by taking samples, could only be repaired with difficulty owing to the lack of smoothness of the tissue. Threads drawn through for repairs opened the tissue next to the damaged part, so that the repairing caused more harm than did the original damage.

The same opinion was passed as regards the transport of nutmegs in sisal bags.

In the case of shipments of copra in sisal bags, the opinion of the consignees was altogether favourable. These experiments resulted in the Association for the Copra Trade allowing the use of sisal bags as well as of jute bags in the standard contracts. However, the consignee is permitted to deduct 4 Dutch cents per bag owing to the lower value sisal bags have in the trade in old bags.

The small sisal bags delivered by the Dutch factory for the transport of ores from the Congo found a ready acceptance.

On the other hand, those delivered to the tin mines in the Dutch East Indies were rejected on account of the lack of density of the tissue, which resulted in the ground tin leaking out. However, in the same country the shipment of unground manganese was permitted and the use of sisal bags met with no objection.

To summarise the Amsterdam Museum of Trade concludes that:—

(*a*) The sisal bag does not present any difficulties in the shipping of pepper, nutmegs of inferior quality, coffee, copra, oil-palm kernels and loose salt, but it is unsuitable for the transport of cocoa. The sisal bag also is unsuitable for ground tin and ground manganese, but may well be used for unground ores.

(*b*) The difficulties in the use of sisal bags are mostly due to the lack of smoothness of the tissue, making it nearly impossible to repair the damages occasionally done in handling and in the taking of samples. In any case sisal bags are less easily repaired than jute bags.

(*c*) The sisal bag is used frequently in the shipment of coffee from Central America.

IV.—PRICES OF SISAL

After these remarks on the uses of sisal the next consideration is that of prices, especially in relation to the prices of the competing commodities.

The use of sisal in the manufacture of sacks cannot bring much relief to the sisal market. For this purpose use can generally only be made of tow and inferior qualities of fibre, especially of Cantala owing to its better flexibility. For the producer, the pivot price of sisal lies near £15 per long ton, this being the average total cost price in the main producing countries. During recent months the London price of No. I. quality has again approached this pivot, thus facilitating the use of sisal for different purposes. However, in times of better prices the competition which sisal has to meet depends largely on the prices of other commodities serving more or less the same requirements. The yearly average prices in London of commodities competing with sisal during 1933 to 1937 are set forth in the following table taken from the International Year-book of Agricultural Statistics, 1937-38:—

——	1933			1934			1935			1936			1937		
	£	s.	d.	£	s.	d.	£	s.	d	£	s.	d.	£	s.	d.
Jute "First marks" ...	15	13	2	15	9	9	18	11	8	18	6	8	20	8	9
Manila Hemp "J. 2" grade	15	18	2	14	17	8	19	4	3	28	1	1	33	16	10
Sisal No. 1 East African...	16	8	7	15	9	5	19	7	11	27	9	2	27	4	8

According to this table, the prices of sisal and Manila have followed a more or less equal course, but the competition of these two with jute in the years 1936 and 1937 must have raised difficult problems for spinners, even if it is taken into account that tow and waste of hard fibres generally cost £3-4 less than No. I quality.

In Europe only the use of the most modern spinning methods may possibly allow competition between jute and agave fibres and their mutual substitution, as the latter cannot be spun as fine as jute. Therefore, for the same surface of twill, the quantity of sisal fibre required considerably exceeds that of jute and so makes competition impossible. Hence also, the substitution of the cheap caroa fibre of Brazil is handicapped owing to the smaller experience of spinning in that country and to the less modern plant used.

In consequence of these limited possibilities of sale, the prices of sisal fluctuate very much. Years of high, profitable prices alternate with years of very low, unremunerative prices, and it is difficult to find adequate reasons for these fluctuations. Therefore, it can only too easily be understood that sisal planters look for uniform restrictions on production and speak of agreements to be made as regards selling prices. In September, 1934 a meeting was held in London, wherein participated representatives of the main producing territories, *i.e.* the Dutch East Indies, East Africa, Mexico, the Philippines and New Zealand which agreed "in principle" to the adjustment of the outputs of the territories to world consumption. This meeting — perhaps indeed as a result of it — was followed by a general rise of prices of hard fibres. Since then, however, nothing further has been done to apply this remedy of "adjustment of prices", nowadays so very popular in the trade of most other commodities.

In the case of sisal one must be very doubtful as to the success of any such agreement, as it would be very difficult to gather the many producers together into one scheme. For instance, some countries such as Mexico have a definite market assured them by their geographical situation, whilst other producers *e.g.* of Cantala, are assured of a market by a certain standardisation of their product. Last, but not the least, in the Dutch East Indies, some 50-60,000 tons are controlled by one large and powerful company which is in general opposed to agreements with weaker companies. —*Monthly Bulletin of Agricultural Economics and Sociology, International Institute of Agriculture.*

(To be Continued)

International Trade in Agricultural Products

EFFECT OF WAR

As international trade in agricultural products plays an important part in determining the demand for jute, it may be of interest to examine the variations in the volume of the trade since the outbreak of war. The following table, compiled from the March issue of the *Monthly Crop Report and Agricultural Statistics (International Institute of Agriculture)*, gives the total export of a number of important agricultural products from some of the most important exporting countries :—

Export of Agricultural Products – Sept. to Dec.

Commodities	Unit	1938	1939	% increase (+) or decrease (–) in 1939
Wheat ...	th. bushels	145,968	196,796	+34·8
Maize ...	,, ,,	99,074	71,806	–27·5
Rice ...	million lbs.	2,689	3,872	+44·0
Butter ...	,, ,,	324	341	+ 5·2
Coffee ...	,, ,,	1,038	1,064	+ 2·5
Tea ...	,, ,,	343	312	– 9·0
Cacao ...	,, ,,	363	319	–12·1
Linseed ...	,, ,,	1,335	691	–48·2
Soya-beans ...	,, ,,	878	231	–73·7
Copra ...	,, ,,	653	446	–31·7
Groundnuts ...	,, ,,	659	198	–70·0
Cotton ...	,, ,,	1,779	2,282	+28·3
Wool ...	,, ,,	684	417	–39·0
Jute ...	,, ,,	641	456	–28·9
Rubber ...	,, ,,	570	827	+45·1

The *Monthly Crop Report* concludes that—

"............the trend of world trade since the outbreak of hostilities has not been uniform but differs from one product to another.

"Exports during the period from September to December 1939 were considerably higher than those of the corresponding period of 1938 in the case of wheat, rice, cotton and rubber ; considerably lower in the case of maize, oilseeds (linseed, soya-beans, groundnuts and copra), wool and jute. In the case of butter, coffee, tea and cacao the difference between the totals of the two periods were relatively small.

"Clearly, it would be incorrect to attribute the variations exclusively to the direct or indirect effects of the war, but in all probability to a large extent the changes in the volume of trade are connected therewith.

"For example, the increase in wheat exports may be explained by the tendency of the importing countries to build up as large stocks as possible of this vital commodity, in case of need ; the same largely applies to rice. In the case of cotton and rubber the relation between the extension of trade and special requirements in the present situation is evident. In addition, the heavy fall in exports of wool and jute may be related to the measures taken by the British Government for controlling the supplies of these products in the Dominions and India. The drop in exports of oilseeds is largely connected with the present difficulties and risks of transport to the ports of Northern Europe, to which a considerable part of these exports is normally directed."

World Trade in Textile Fibres

LOWER OUTPUTS IN 1938-39

THE *Annual Review of the Imperial Economic Committee*, London, records a decrease of more than 20 per cent. in supplies of the chief textile fibres entering world trade in the 1938-39 season.

With some exceptions, however, supplies carried over from the previous year prevented any shortage. Smaller quantities were produced of cotton, wool, silk, flax and jute, and the expansion in the output of rayon was checked, but staple fibre showed an increased output and reached a new record.

Consumption in Britain and Japan, the chief importers, fell heavily. Unsold stocks of wool at the end of 1938-39 were relatively small, the whole of the clip, together with large stocks carried over from 1937-38, having been cleared. Prices remained at uneconomic levels during most of the year, but showed some appreciation towards the end.

Wool and cotton were sufficient for manufacturing needs, but a shortage of raw silk and flax became apparent as the season progressed. Japanese production of raw silk was smaller, United States consumption increased, and prices rose to unusually high levels.

A steady increase occurred in the area planted to sisal in British East Africa, but the acreage under phormium tenax in New Zealand slightly declined.

Exports of hemp from British East Africa continued to expand in 1938, and Tanganyika, Kenya and Uganda shipped 131,000 tons, compared with 123,000 tons in the previous year and 72,000 tons in 1931.

WORLD COTTON ACREAGE

SMALLER THIS SEASON

According to the estimates of the U. S. Bureau of Agricultural Economics world cotton acreage this season is about 2,700,000 acres smaller, and world production of cotton will be about 200,000 bales smaller than the last season.

The Bureau estimates the world cotton crop at 28,800,000 bales. Production of Russia and Egypt may be larger but other countries will grow less. The decline in world cotton acreage is largely due to reductions in India, Egypt and China.

U. S. A.

EXPORTS AND IMPORTS

RAW AND MANUFACTURED JUTE

THE *Monthly Summary of Foreign Commerce of the U. S. A.* publishes the following figures regarding the imports and exports of raw jute and jute goods into U. S. A. during the first twelve months (January—December):—

	1939 (tons)	1938 (tons)
Imports:—		
Raw Jute	35,293	34,661
Jute Butts	556	10,929
Waste Cloth and Baggings	11,891	23,704
Burlap (Hessians) ...	197,091	225,149
Bags and Sacks ...	13,624	19,294
Exports:—		
Jute Bags	10,820	6,482

ORIGIN OF U. S. A. BURLAP

According to the *Daily Mill Stock Reporter* of New York, imports of burlap in December originated in various countries as follows:—

	1939 (tons)	1938 (tons)
Belgium	...	175
Germany and Czechoslovakia	20	238
Hungary	...	81
Italy	...	257
Netherlands	...	77
U. K.	1,129	1,036
British India	11,401	18,057
Others	14	...

IMPORTS IN JANUARY

The following table, sent by the Indian Government Trade Commissioner at New York, gives the detailed import figures of jute and jute goods into U. S. A. during the month of January, 1940:—

Product.	Unit.	Countries.	Quantities.	Value $
Jute ...	Ton	British India ...	8,228	968,509
		Others ...	...	...
		Total ...	8,228	968,509
Jute Butts ...	„	British India ...	67	5,292
		Others ...	...	...
		Total ...	67	5,292
Burlaps ...	lbs.	British India ...	62,614,511	5,555,399
		United Kingdom ...	1,837,939	198,386
		Belgium ...	80,482	9,662
		Germany ...	30,298	4,565
		Others ...	...	...
		Total ...	64,563,230	5,768,012
Jute Bags or Sacks.	„	British India ...	3,224,940	
		Sweden ...	8,979	
		Canada ...	7,689	
		United Kingdom ...	3,810	
		China ...	2,000	
		Norway ...	105	
		Total ...	3,247,523	228,659

SISAL AND MANILA HEMP

IMPORTS INTO U. S. A.

According to the *Monthly Summary of Foreign Commerce of the U. S. A.*, imports of Sisal and Manila Hemp into U. S. A. during the first twelve months (January—December) were:—

	1939 (tons)	1938 (tons)
Sisal and Hanequen ...	118,761	108,243
Manila Hemp	45,932	27,383

18,244 TONS IN JANUARY

Imports of sisal into the United States in January totalled 18,244 long tons of a declared value of $ 1,667,672, according to preliminary figures issued by the U. S. Commerce Department, with principal arrivals 6,058 tons from Mexico, 5,029 tons from the Netherlands Indies, 4,907 tons from British East Africa, 1,003 tons from Haiti and 758 tons from Cuba.

Manila hemp imports in January amounted to 4,565 long tons valued at $ 517,476.—*Daily Mill Stock Reporter*

HESSIAN STOCK AND CONSUMPTION

Hessian stock and consumption figures of the United States of America excluding the Pacific Coast business, as reported by the Indian Jute Mills Association, are given below, the figures being in millions of yds. :—

	January		February		March	
	1940	1939	1940	1939	1940	1939
Stock	231	314	213	304	210	283
Consumption	55	61	52	53	50	66

NEW YORK PRICES

The *Daily Mill Stock Reporter* quotes the following prices of Raw Jute and Jute Goods prevalent in the New York Market, all the prices being nominal :—

Date	Raw jute (native Firsts) Cents per lb.	Burlap (Hessians) Cents per yd.		Old Bags Cents per bag	
		8 oz. × 40s.	10 oz. × 40s.	100 lb. sugars	140 lb. starch
22nd Feb., 1940 ...	8·50	5·95	7·40	3·87	6·62
7th March, 1940 ...	8·60	5·85	7·15	3·87	6·37
18th „ 1940 ...	8·25	5·70	7·05	3·87	6·37
25th „ 1940 ...	8·30	5·80	7·10	3·63	6·37

IMPORTS OF JUTE BAGS INTO U. S. A.

DECREASE IN 1939

Imports of jute bags or sacks into the United States for the second successive year showed a decline during 1939, and last year fell to the smallest volume in the past ten years, records the *Daily Mill Stock Reporter.*

Imports during 1939 totalled 13,624 tons according to the official U. S. Department of Commerce figures. This represented a decrease of 29·3 per cent. in quantity from a total of 19,294 tons in 1938. The 1938 imports showed a decline of 15·0 per cent. from 22,703 imported in 1937.

The following table shows in tons, imports during the last ten years :—

Year	
1930	19,337
1931	16,814
1932	19,262
1933	15,972
1934	17,664
1935	17,782
1936	15,393
1937	22,703
1938	19,294
1939	13,624

U. S. COTTON BAG EXPORTS

RISE IN 1939

According to *Daily Mill Stock Reporter* of March 26, exports of used and reclaimed cotton bags from the United States during the calendar year 1939 totalled 1,015,798 pounds valued at $ 102,912, while exports of new cotton bags amounted to 6,843,253 pounds valued at $ 1,782,671, according to U.S. Commerce Department figures. During 1938, exports of all cotton bags totalled 5,459,517 pounds of a declared value of $ 1,397,857.

SECONDHAND BAGS

NEW YORK MARKET

Export demand for used bags has slowed down perceptibly, states the *Daily Mill Stock Reporter* of March 28. Two principal reasons are ascribed for this by a leading exporter at New York. In the first place, most buyers abroad apparently have filled their needs for a time, since they have absorbed considerable supplies of bags in recent months. Secondly, according to the exporter in question, prices asked for bags here "are entirely" too high, being out of relative proportion in some instances with new bags.

"By way of example," stated the exporter, "new Cuban sugar bags are quoted for shipment from India at about 20·00c per bag; notwithstanding this, we were asked 21·00c for used standard Cuban sugars in No. 1 cleaned order by a dealer in the New York district, who refused to sell for less. It is out of reason that used bags should be held for more than new bags.

"High freights and insurance also are mitigating against foreign demand for bags. Adding excessive freight and insurance expense brings the cost of bags on a delivered basis up to such heights that buyers abroad simply cannot afford to meet prevailing prices."

JUTE AND HEMP MARKET IN U. S. A.

LITTLE BUSINESS IN MARCH

March was a featureless month for the American jute and hemp market. The burlap market showed somewhat restricted activity at times, but the raw jute market was lifeless throughout. In the hemp market Manila fared better than the others, although business in Manila was on a low level.

BURLAP

The month of February closed with some activity in the New York market mostly in forward shipment positions. But March opened with a quiet market and all prices during the first week were quoted 10 to 20 dollar points lower. Business in jute goods was done on a very restricted scale. Prices were further reduced in the second week and the market developed indications of activity, although actual business was confined mainly to scattered transactions. An interesting development in this week was that dollar quotations on forward shipments were higher, the reason being that dollar values were based on the new pegged rate of sterling exchange of $ 4·03½. Prices for the rest of the month moved up and down in sympathy with Calcutta rates. The downward trend of burlap prices towards the end of March failed to stimulate demand on a large scale. The attractive prices, however, aided business to some extent and some buyers were operating on a fair scale. Towards the end of the month members of the trade took serious notice of the growing scarcity of available burlap on the spot and afloat, which, it was feared, might soon develop into a distinct shortage.

RAW JUTE

The raw jute market at New York opend very quiet and was practically devoid of any activity. The spinners were holding off as buyers, because their major needs were apparently covered for the rest of the season. Even reduced prices about the middle of March failed to evince any interest from buyers. The month closed with the market virtually at a standstill.

HEMP

At the beginning of the month Manila hemp was in limited demand and sisal in slow demand. Stocks in Manila totalled 212,000 bales. There was some business in Manila hemp due to the Government purchase under provisions of the Strategic and Critical Materials Act. There was, however, little purchasing of hemp by rope manufacturers as their supplies on hand were sufficient to meet their immediate needs. Stocks in Manila came down to 206,000 bales by the third week of the month. Prices of different varieties of hemp were on the whole steady with occasional variations of a limited character.

American Jute Market in 1939

CONSUMPTION OF BURLAP

BURLAP consumption in the United States during 1939 was the fourth yearly high on record ; that is, since statistics on the subject have been compiled starting with 1930. The increase last year over the year preceding was slight, but at least a gain was scored, which may be regarded as a satisfactory showing in view of the comparatively quiet condition of the American market in the forepart of the year. Moreover, it meant a change in the trend in a forward direction, following a severe drop the year before from the highest level of use of the commodity in this country in 1937 for the last ten years.

2·6 PER CENT RISE OVER 1938

A total of 711,879,000 linear yards of burlap was consumed in the United States during the calendar year 1939. This was a rise of 18,204,000 yards, or 2·6 per cent, over 693,675,000 yards in the preceding year. It was, however, 158,577,000 yards, or 18·2 per cent. below the 870,456,000 yards consumed in 1937, which stands as the all-time high record of annual cut-up of jute cloth in this country, in so far as figures are available. Last year's consumption also was under the 769,541,000 yards consumed in 1936, and the 772,123,000 yards in 1930. Other than for these three previous years, the 1939 total was higher than in other years during the past decade.

The encouraging showing last year came after a sharp decline of 176,781,000 yards, or 20·3 per cent, in the 1938 consumption from the record yearly high of 870,456,000 yards consumed in 1937, from which it may be seen that consumption in the country has a far way to go to attain the high level of two years ago.

EXCEEDED TEN-YEAR AVERAGE

Consumption in the United States for the last ten years, 1930 to 1939, inclusive, reached a grand total of 6,579,077,000 yards, or an average of 657,907,000 yards annually. On this calculation, the 1939 consumption was 53,972,000 yards or 8·2 per cent. above the ten-year average. Also, last year's use of the commodity in this country—the foremost burlap consuming nation of the world—was 235,537,000 yards, or 49·4 per cent. in excess of the low point for the past ten years of 476,342,000 yards to which burlap consumption in this country dropped in 1932.

Consumption totals for the United States during the last ten years follow :—

	Yards
1939 ...	... 711,879,000
1938 ...	... 693,675,000
1937 ...	... 870,456,000
1936 ...	... 769,541,000
1935 ...	... 611,427,000
1934 ...	... 512,725,000
1933 ...	... 529,608,000
1932 ...	... 476,342,000
1931 ...	... 631,301,000
1930 ...	... 772,123,000

The monthly average consumption during 1939 was 59,323,250 yards, as contrasted with 57,806,250 yards per month in the preceding year, 72,538,000 yards monthly in 1937, 64,128,000 yards in 1936, 50,952,000 yards in 1935, 47,727,000 yards in 1934, 44,134,000 yards in 1933, 36,695,000 yards in 1932, 52,608,000 yards in 1931, and 64,343,000 yards in 1930.

MONTHLY RECORD ESTABLISHED

Burlap consumption fluctuated irregularly last year ; in fact, it might be said consumption was in jumps or spasms during the year. Starting on a fairly high level of 60,527,000 yards in January, it dropped fairly sharply in February to 53,227,000 yards in March and then again decreased to 54,126,000 yards in April.

During the next four months, May to August inclusive, it hung around the 50,000,000—yard level or slightly lower, until September, the first war month, when it jumped to 91,077,000 yards, the high for the year and the highest point reached in any month for the last ten years. A recession set in during October which lasted through the last quarter and carried consumption to the low level of the year of 53,226,000 yards in December.

Since the consumption figures do not include Pacific Coast use of the article, as it is estimated consumption in that section of the country equals fully 15 per cent. of the calculated cut-up, it may reasonably be estimated that total United States consumption reached approximately 818,000,000 yards, inclusive of an estimated 107,000,000 yards for the Pacific seaboard region. Adding also an estimated hundred million yards used in Canada, the aggregate North American burlap consumption last year was in excess of 900,000,000 yards.

DECLINE IN U. S. STOCKS

Showing an almost uninterrupted decline during the first ten months of the year, United States stocks of burlap were substantially lower at the end of 1939 than at the outset of the twelvemonth despite an upturn in the final two months. At the beginning of last year, total stocks spot and afloat were 314,000,000 yards, while at the close of the year this visible supply was reduced to 264,000,000 yards, a net decline of 50,000,000 yards or 15·9 per cent. At one point in the year, the end of October, stocks worked down to 221,000,000 yards.

Total United States stocks, spot and afloat, at the end of the last ten years were as follows:—

	Yards
1939	264,000,000
1938	312,000,000
1937	349,000,000
1936	355,000,000
1935	275,000,000
1934	228,000,000
1933	257,000,000
1932	233,000,000
1931	257,000,000
1930	295,000,000

* * * *

BURLAP IMPORTS FROM CALCUTTA

GAIN TO NORTH AMERICA

Shipments of burlap from Calcutta to North America showed a moderate gain, a bit larger than the increase in total exports; shipments to South America declined fairly sharply from a percentage viewpoint.

Shipments to North America last year amounted to 933, 688,564 yards—using official figures for eight months and estimated yardages in the last four months—representing a rise of 28,745,388 yards, or 3·1 per cent. above 904,943,176 yards shipped to this continent in 1938.

Contrasted with the all-time high shipments to North America of 1,157,003,481 yards in 1929, last year's. total constituted a loss of 223,314,917 yards, or 19 3 per cent. approximately a one-fifth decline. To utilize another comparison, for every five yards shipped to this continent in the record year of 1929, a shade less than four yards were shipped in the last calendar twelve month.

Burlap exports to South America in 1939 were 241,781, 257 yards, a decrease of 68,212,660 yards, or 22·0 per cent. from a total of 309,993,917 yards in the year preceding.

Shipments to North America during 1939 were equivalent to 59·06 per cent. of all the burlap exported from Calcutta for the year, as against 57·50 per cent. in 1938; shipments to South America were 15·30 per cent. of the total against 19·70 per cent. in the year before, and shipments to all other places comprised 25·64 per cent. of the year's aggregate, against 22·80 per cent.

Of the total of 933,688,564 yards of burlap to North America in 1939, shipments to the United States amounted to 847,844,044 yards, as compared with 831,778,113 yards in the year preceding, while shipments to Canada were 85,844, 520 yards last year against 83,165,063 yards in 1938.

BURLAP SHIPMENTS TO SOUTH AMERICA

Following a steady uptrend for the three previous years, shipments of burlap from Calcutta to South America decreased during 1939.

In fact, the decline last year was fairly sharp from the preceding twelve months, and brought the total yardage shipped to the Argentine and other countries on the South America Continent—next to North America normally the largest consuming market for the product of Indian jute mills—down to the lowest point since 1935, during which year South American shipments sank to an unusually low level.

Total shipments from Calcutta to South America during 1939 amounted to 241,781,257 yards, a decline of 68,212,660 yards, or 22·0 per cent. from a total of 309,993,917 yards shipped in 1938, and falling also well below 274,900,969 yards in 1937 and 273,395,350 yards in 1936, although exceeding 191,092,137 yards in 1935.

The fall in shipments last year followed an increase of 35,092,948 yards or 12·7 per cent. in 1938 over the 1937 yardage.

FAR BELOW RECORD YEARS

Moreover, last year's shipments of burlap from Calcutta to South America were far under the annual yardage sent to that continent in the three-year period 1927 to 1929, inclusive, when record shipments were made to our neighbouring continent to the south averaging 368,000,000 yards a year, and during which period, in 1928, the all-time high exports of 373,356,691 yards from Calcutta to South America were registered.

At the same time, the 1939 shipments to south America were larger, with the exception of the three previous years, 1936 to 1938, inclusive, than in any of the six years, 1930 to 1935, inclusive. Also, they represented a large gain over the low point of only 113,407,934 yards to which exports to the South American market dropped during 1931, the bottom level for the last two decades. Contrasted with the all-time high of 373,356,691 yards in 1928, last year's shipments to South America constituted a fall of 131,575,434 yards, or 35·2 per cent. In other words, the 1939 total was only approximately two-thirds of the record shipments in 1928.

Despite the decline last year, burlap shipments to South America in 1939 exceeded the average yearly total for the previous nine years. Taking the aggregate figures for the nine-year period, 1930 to 1938, inclusive, it is found that Calcutta shipped a little more than two billion yards of burlap to South America in that time, or an average of 227,000,000 yards a year. Thus, the 1939 shipments of 241,781,257 yards were 14,000,000 yards above this nine year average, so that it may be stated the 1939 total was larger than the yearly average for the 1930 decade.

SHIPMENTS WERE SEASONAL

Exports of burlap from Calcutta to South America last year were in keeping with the customary seasonal flow of the commodity out of India to the Argentine market. The great bulk of burlap consumed in South America is used for sacking the Argentine grain crops. Thus the goods are needed principally during a comparatively small portion of the year, or in three or four months when crops are harvested.

The period of large shipments from Calcutta to South America usually is July to October, so that the goods will reach the River-Plate in time to be made up into bags for the grain harvests. Thus, by far the biggest part of the year's supply of burlap for South America was shipped from Calcutta during that four month period last year, a total of 155,000,000 yards—in round figures—being shipped in the four months or some 64 per cent. of the entire year's yardage. In other words, shipments during those four months averaged about 39,000,000 yards a month, whereas in the other eight months of the year the average was only approximately 8,500,000 yards monthly.

The largest yardage shipped to South America in any month during 1939 was 45,721,000 yards in August, closely followed by 40,000,000 yards in September and 39,591,500 yards in July. In the preceding year, the month of heaviest shipments was September, when 56,275,000 yards were shipped, although August was practically on a par with 56,017,000 yards. During 1938, 66 per cent. or exactly two-thirds of the total year's shipments left Calcutta in the four-month peak period, July to October, inclusive.

The decrease in burlap exports from Calcutta to South America last year from the preceding year also resulted in a slight decline in the percentage of the South American yardage to the total burlap shipments from the primary jute centre in India. Shipments to South America in 1939 constituted 15·3 per cent. of all the burlap exported from Calcutta during the year, a loss of 4·3 percentage points from the preceding year when shipments to the same consuming market comprised 19·6 per cent. of total Calcutta exports, and compared also with 15·9 per cent. in 1937, 17·0 per cent. in 1936, 16·1 per cent. in 1935, 21·0 per cent. in 1934, 19·2 per cent. in 1933, 22·4 per cent. in 1932 and 10·6 per cent. in 1931.

Buenos Aires is the principal port of entry for burlap shipped from Calcutta to South America, followed fairly closely by Rosario. During the first eight months of last year, shipments consigned to Buenos Aires amounted to 69,051,850 yards and to Rosario 47,938,000 yards. The yardage to these two ports comprised 86 per cent. of the total shipments to South America in that period.

Rather surprising and in spite of a marked contraction after the start of the European war, burlap importations into the United States from Europe scored a substantial increase during 1939 compared with the preceding year. While figures only for the first ten months of 1939, inclusive of the first two months of the war, are as yet available, these show that more jute cloth and of larger value was imported into this country from Europe last year than in the similar time of 1938. However, last year's imports were far below those in each of the five years prior to 1938. Moreover, it is probable that when figures for the final two months of the year are issued, and the likelihood that arrivals in those two months were unusually small because of the war, it will be found the total 1939 imports from Europe were only about on a par with or but slightly above the 1938 receipts.

GAIN OF 23·6 PER CENT.

Utilizing statistics for the first ten months of the last calendar year issued by the U. S. Department of Commerce, calculations reveal that imports of burlap from all European countries in the ten-month 1939 period amounted to a total of 41,813,698 pounds, of a declared value of $3,456,480. This represented a rise of 7,990,071 pounds, or 23·6 per cent. over the 33,823,627 pounds imported in the corresponding ten months of 1938, and a gain of $681,099, or 24·5 per cent. in value above the $2,775,381 valuation of imports in the same period of 1938.

On the other hand, the imports last year in ten months were less than half the volume and value of the 89,865,358 pounds valued at $ 7,264,620 imported in the full year of 1935, which stands as the record year of burlap imports from Europe. Also, they were well below imports in 1933, 1934, 1936 and 1937.

MORE FROM UNITED KINGDOM

Imports from the United Kingdom for ten months were 20,192,764 pounds, contrasted with 15,309,606 pounds in the same 1938 period ; from Italy, 7,988,148 pounds, against 8,366,222 pounds in 1938 ; from Belgium, 6,601,148 pounds, against 2,357,929 pounds ; from Germany, 3,188,961 pounds, against 1,399,608 pounds ; from Czechoslovakia, 1,633,664 pounds (in four months, prior to seizure of that country by Germany), against 4,587,219 pounds ; from the Netherlands, 1,435,668 pounds, against 828,608 pounds ; and from Hungary, 773,345, pounds, against 971,701 pounds.

The 41,813,698 pounds of burlap imported from Europe during the first ten months of last year comprised 11·7 per cent. of the total of 355,080,509 pounds imported in that period from all sources, including, of course, the principal source of jute goods supply, British India, according to our Government's figures.

RAW JUTE IMPORTS FROM INDIA

The shipments of raw jute from India to America fell from a total of 596,909 bales in 1937-38 to 464,140 bales in 1938-39, following a previous severe drop in 1937-38 from 823,871 bales in 1936-37. Thus, within the scope of two years, exports to America declined almost one-half ; to be exact, the total last season was 359,731 bales, or 43·6 per cent. below the shipments two years previously.

SECOND YEARLY DROP

The loss in shipments to America last year represented the second consecutive season in which exports to the American market have dropped, following a rise of 195,609 bales, or 31·0 per cent. in 1936-37 over the 1935-36 shipments.

Last season's exports to America comprised 370,455 bales of jute, as against 436,245 bales in the preceding year, a decrease of 65,990 bales or 15·1 per cent.; 92,835 bales of cuttings, against 159,985 bales, a decline of 67,150 bales or 41·9 per cent. and 850 bales of rejections, against 679 bales. It can be seen from these figures that the greatest decrease in exports to America was in cuttings.

Notwithstanding this sharp decline in cuttings exports last year, America continued to be the principal market for this class of raw jute, the comparatively small shipments of 92,835 bales of cuttings to the American market still ranging well in excess of shipments of similar jute to any other major divisions of the world jute market or 55,442 bales to the European continent, 47,192 bales to the United Kingdom and 39,214 bales to all the rest of the world.

12 PER CENT. OF TOTAL TO AMERICA

The decrease of 65,990 bales, or 15·1 per cent. in the jute exports to America, not including cuttings and rejections last season followed a decline of 178,019 bales, or 28·9 per cent. in the 1937-38 year from a total of 614,264 bales in 1936-37; a rise of 23 per cent. in the 1936-37 shipments over 497,437 bales total in 1935-36, and compared also with 377,137 bales in 1934-35. The total jute exports of all classes to America last season comprised 12·0 per cent. of the aggregate exports of fibre from India to the world, compared with 16·2 per cent. in the preceding season, 16·8 per cent. in 1936-37 and 15·2 per cent. in 1935-36.

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BURLAP PRICES IN NEW YORK

PRE-WAR FLUCTUATION FAIR

Prices of spot burlap at New York moved between a low of 3·70c per yard, duty paid, to a high of 4·60c for 7½-ounce 40s during the pre-war portion of 1939 or the first eight months of the year ; from 4·05c to 4·90c for 8-ounce 40s, 4·75c to 5·90c for 10-ounce 40s, and 4·95c to 6·10c for 10½-ounce 40s.

Thus, 7½-40s had a pre-war quotational spread of 90 points or not quite a cent per yard; 8-40s a spread of 85 points, 10-40s 115 points, and 10½-40s also 115 points. Contrasted with recent previous years, this constituted fairly broad market fluctuation, as, by way of example, during the year 1938 the net spread in spot lightweight prices was only 45 points or less than half a cent per yard, and in heavyweights also but 45 points.

The pre-war price changes dwindled into insignificance after the outbreak of war on September 3. The rapidity with which the market jumped in the early weeks of the European conflict probably never has been equalled, certainly not since the last world war days. Within the first month spot burlap prices at New York rose from 4·40c prior to the declaration of war to 6·85c for 7½-40s, from 4·45c to 7·05c for 8-40s, from 5·50c to 8·15c for 10-40s, and from 5·65c to 8·35c for 10½-40s.

THEN CAME THE BIG RISE

However, the sharpest advance occurred about a month later or the end of October when news came out of the placing of an order by the British Government with Calcutta jute mills for half a billion sandbags, at which point the market reached its high levels of the year. Spot 7½-40s moved up to 8·00c, 8-40s to 8·20c, 10-40s to 10·85c and 10½-40s to 11·30c duty paid.

Thus, from the bottom to the top points registered by burlap prices in the spot New York market during 1939, 7½-40s showed a net range of 4·35c per yard from a low of 3·70c to a high of 8·00c ; 8-40s a spread of 4·15c a yard from 4·05c to 8·20c ; 10-40s a net of 6·10c from 4·75c to 10·85c, and 10½-40s, 6·35c from 4·95c to 11·30c. The high price level reached by lightweights last year was the highest in eleven years or since 1928, while the 1939 high in heavyweight burlaps was the top market point recorded in twelve years or since 1927.

The first fortnight of the European war doubtless witnessed the greatest spurt of burlap demand the industry has ever experienced. Buyers flocked into the market, evidently apprehensive of not being able to supply their needs under war conditions and foreseeing a sharp price rise, and figuratively bought their heads off. An insatiable demand existed for a time and it afterward was estimated that purchases by American buyers during the two-week period aggregated up to 500,000,000 yards of burlap for forward shipment from Calcutta. It was a spell of market excitement and activity which will long be recollected by burlap traders.

Thereafter the market turned distinctly quiet and remained so for the balance of the year. The final month of the year witnessed about as dull a market situation as could feasibly exist.

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RAW JUTE PRICES IN NEW YORK

Jute prices were on comparatively low levels at the outset of last year. The landed price at New York of native first marks was 4·25c per pound. Nevertheless there were numerous well-founded predictions that jute was gradually working into a situation where these bullish circumstances of several years' standing were bound to assert themselves and make for a sharp market rise, sharper, in fact, than had been known in a considerable sequence of years.

And precisely that was what happened in the second quarter of 1939. Gathering strength almost from the beginning of the year, the jute market slowly though steadily moved upward during the early months, and in late April, after having registered a gain prior to that time of approximately a cent and a quarter per pound from the year's opening levels, jute prices jumped another cent a pound to attain the highest mark in the United States in nine years or since the momentous commodity and securities market boom in 1929.

INVOLVED OTHER CAUSES

This broad market advance early in 1939 was caused not wholly by the potentially bullish statistical situation which had been built up during the several previous years although that comprised the groundwork for the rise, but was helped along by a growing scarcity of available jute in the primary centre of Calcutta, more particularly of the high qualities, reflecting the tremendous production of jute cloth by mills in Calcutta and a consequent piling up of finished goods stocks and resultant decrease in raw material supplies, together with indication of a poor quality if not low yield crop in 1939, and the threat at that time of war in Europe.

Jute prices rose to a high of 6·65c a pound landed at New York for native first marks in the first week of last May, which represented a climb of 2·40c a pound from levels prevailing at the start of the year.

MARKET LATER RECEDES

The market afterward turned easier, especially following the reaching of an agreement by the Calcutta mills to reduce cloth production, and the trend in jute prices through May, June, July and August was downward, until in the last-named month the market both in Europe and here returned to the quotable levels prevailing at the beginning of the year, native first marks declining to £19 15s per ton in Dundee and 4·25c a pound at New York.

And then came the war in Europe. For a time a period of about a month—immediately following the start of hostitilities early in September there were no jute prices extant in the market. The situation was strictly a nominal one. Early in October, nominal quotations at New York had risen to 5·60c per pound for native first marks, and later in that month to 6·40c. when the news concerning the British Government placing order for half a billion burlap sandbags with Calcutta mills, in addition to the commitments for several hundred millions already reported, became known and with it the decision of mills in Calcutta to step-up their cloth production appreciably, the wartime advance in jute got under way in earnest. Within one week early in November the nominal price at New York rose in excess of a cent per pound to 8·00c, and early in December moved sharply upward to 11·00c, constituting a climb of 6·75c per pound in three months.

HIGHEST LEVEL IN 12 YEARS

Back in 1926, prices of jute reached the exceptionally high level of 13·50c a pound at New York. Not since that time had the high points registered by the market in 1939 been even so much as approached. In short, the top levels of last year after the outbreak of war in Europe established new market heights for a space of twelve years. The previous high price in that period of a dozen calendar years was 9·00c per pound here in 1928. From 1930 through 1938, jute prices moved within ranges of 3·45c to 6·25c a pound in New York, with and average of 5·35c.

Thus, the high war level recorded in 1939 was 5·65c per pound in New York above the average for the previous nine years, or more than double the average. This comparison affords an idea of the enormous advancement, in jute values under war conditions during the year.

The net spread in jute quotations during 1939, from the low to high points reached for the year, was 6·75c per pound from a low of 4·25c to a high of 11·00c in New York. In the year before, the spread was only 65 points or aproximately two-thirds of a cent per pound at New York.

(The above are extracts from the 1940 *Annual Burlap and Jute* number of the *Daily Mill Stock Reporter).*

U. S. IMPORT OF BURLAP

JANUARY SHOWS GAIN

January imports of burlap into the United States amounted to 64,563,230 pounds of a declared value of $ 5,768,012, according to U. S. Department of Commerce figures, states the *Daily Mill Stock Reporter* of March 30.

This compared with 43,809,423 pounds of a valuation of $ 2,444,032 imported in the same month of last year.

Jute *vs.* Cotton

LOWER JUTE PRICES CHECK U. S. COTTON USE

ADEQUATE BURLAP SUPPLIES

AN American correspondent of the London *Jute Review*, informs that prices of burlap have come down again in the new York market, to a reasonable level. Just before the war broke out, light weight burlap in New York were $ 4 80 and heavy weight $ 6·00. Prices soared up to $ 8·40 and $ 11·60 respectively at the beginning of November to climb down gradually to $ 7·60 and $ 11·00 at the end of November, 1939. December saw a further slowing down to $ 7·15 and $ 10·20.

Then came the collapse of the jute prices which forced down the New York quotations to $ 5·60 and $ 7·25 the lowest so far.

The fall in prices has effectively checked the use of cotton cloth in the American sack industry, reports our correspondent, and made jute again competitive with cotton. Manufacturers of heavy weight sheetings and osnaburgs had partly for these reasons to reduce their quotations. Production of these goods have been greatly expanded under the assumption that a continuation of high jute prices would firmly install cotton as substitute for jute. Some circles who were sceptical from the outset, of the possibility of maintaining jute prices, see their cautiousness in the question of taking up substitutes, justified.

Burlap supplies are still adequate, says Frank E. Ewer, Treasurer, Bemis Brother Bag Co., in an article. He goes to some length to counteract the impression that burlap supplies had become short because of the war, an idea might have been spread with the intention to increase the use of substitutes.

Mr. Ewer recalls that during the World War the peak of burlap prices was about 2½ times present prices, while the peak of prices of cotton goods used as substitutes was about four times present market prices. He also pointed out that during the World War ocean freight rates reached a figure six times as much as present rates, which have been doubled since September and war risk insurance rates were 20 times the average of current rates being paid to various ports.

If the war does not interfere, it can almost be taken for granted that mills will find ways to manufacture enough burlaps to meet American demand. But if prices are so high that other materials continue to be substituted, and to a greater extent, American demand naturally will fall off.

Although the British Government placed orders last year for almost a thousand million burlap sandbags with the jute mills in India, there has been no serious shortage of goods required to supply the demand for burlap bags for farm and factory products and for other purposes for which burlap cloth is used in the United States.

There have been no losses of ships carrying burlaps to U. S. A. ports, but over a period of almost six weeks during October and early November no freight space was obtainable for shipments to North Atlantic ports. There was practically no space shortage, however, to Gulf or Pacific Coast ports to which more than half of the supplies for this country are shipped. At present, there is plenty of space, if not a surplus, to all ports.

Treatment of Sack Cloth

AN AMERICAN INVENTION

AN AMERICAN invention has been patented which relates to the treatment of jute textiles used in the manufacture of sacks, reveals the March issue of the London *Jute Review.*

Jute textiles often have superficial fibres loosely attached to their surface and these fibres have a tendency to become detached during use of the material. When such materials are made up into sacks the superficial fibres tend to shed into the contents of the sack. It is an object of this invention to provide means for laying the surface hairs on jute textiles and to prevent the shedding of such fibres.

Textiles composed in whole or essentially of jute are treated by applying to the surface of the textile an aqueous dispersion of a cellulose compound having a pH value of less than 8 and coagulating the cellulose compound thereon to bind the nap fibres to the surface and to prevent the loss of loose fibres from the textile. The cellulose composition employed in the present invention is only slightly alkaline or neutral or acid in reaction so that the composition does not adversely affect the strength of the textile materials and does not impart to the jute a colour due to alkalinity. The invention enables the waste jute textile to be re-used without necessity of removing the cellulose compound deposited thereon.

For the cellulose compound there may be employed alkyl ethers and hydroxy-alkyl ethers of cellulose which are soluble in water or in very dilute aqueous alkaline solutions in which the pH does not have to be greater than about 8 ; also cellulose hydroxy acid ethers (as prepared by treating alkali cellulose with mono halogen fatty acids), cellulose benzyl sulphonates and solutions of cellulose in inorganic solvents such, for example, as zinc chloride, alkali thiocyanates, alkali metal perchlorates and solutions of cellulose in acids, such for example as sulphuric acid, and all other cellulose compounds which are soluble in water or acqueous solutions having a pH of less than 8.

Example : A fabric made of jute is passed through a cold solution comprising 5 parts of a water-soluble cellulose ether, and 95 parts of water. The solution is neutral in reaction. The excess solution is removed by passing the fabric through squeeze rolls and the treated fabric passed into hot water which coagulates the cellulose ether. The squeeze rolls lay the nap and the cellulose ether binds the nap fibres to the fabric thus producing a product having a relatively smooth surface.

The composition may be applied by spreading, brushing dipping or otherwise to the surface of the fabric or material to be treated. While still wet, the material is pressed, rolled or otherwise suitably treated so that the superficial hairs are effectively laid and adhere to the surface. The cellulose compound is then coagulated in a suitable manner and the material is dried and finished in the usual manner.

There may be added to the composition various fillers loading materials, pigments, dyestuffs, sizes, dispersion assistants, wetting agents, and agents for fire-proofing, water-proofing, preserving, softening and the like for imparting to the composition or the treated jute textiles various properties well known in the art.

Conditions Affecting Jute in Argentine

GOVERNMENT TO ENCOURAGE HEMP CULTIVATION

BAG INDUSTRY HAS BUSY TIME

THE following is the full text of Mr. W. J. Jackman's monthly report, No. 28 on conditions affecting the Jute Industry in the Argentine Republic :—

General Situation

February exports from the Argentine had a total value of $ 165,593,000 pesos and the imports $ 136,966,000 pesos, giving a favourable trade balance of $ 28,627,000 pesos. This added to the January balance of $ 25,870,000 pesos, makes a favourable balance for the first two months of the year of $ 54,497,000 pesos. This figure compares with a favourable balance of $ 45,886,000 pesos for the corresponding period of the previous year.

Business during March was somewhat interfered with by the prolonged holidays during Holy Week, and the volume probably suffered ; but conditions generally are considered to be quite satisfactory.

Official exchange rates continue unchanged at $ 13·50 pesos for the pound sterling and $ 335·82 pesos per $ 100. U.S. dollars. But in the free market fluctuations took place during the last month which carried the dollar to the high figure of $ 443. two days ago, whilst the pound after slumping to $ 14·90 had recovered to $ 15·92 pesos.

Some financial authorities are predicting that sooner or later a new valuation will have to be placed on sterling in the official exchange market because of the appreciation of the Argentine peso as a consequence of the continued highly favourable trade balances.

Crop News

The condition of the *Maize* crop deterioraied somewhat during March, as a result of the absence of rain during the earlier weeks ; but the damage was principally in the zones where livestock is the main industry, and the fields which suffered are being used as pasturage. The volume of the crop, picking of which has already commenced in the northern districts, is generally expected to prove exceptionally large, and the difficulty of finding markets is causing much worry. Fortunately there is no disposition amongst growers to rush the grain to market and so depress the already low price. To encourage withholding from market the official National Bank is making loans to growers to finance the picking of the crop, with the condition that the grain be not shelled but be stored on the cob, in which form the deterioration during storage is much reduced.

The condition of the *Rice* crop is generally good. The *Potato* crop in the main zones is giving yields described as "satisfactory" to "good". In the province of Santa Fe' drought has caused the loss of a good percentage of the second plantings. In Mendoza a frost at the end of March destroyed 40% of the crop. Second plantings in other regions are said to be in good condition. The *Peanut* crop is giving good yields in most of the districts where it is cultivated.

The *Cotton* crop suffered somewhat from rains in the second half of March, and its maturing has been retarded.

Wool stocks at March 1 are officially announced to have been 57,294 metric tons. The second clip is well advanced in Buenos Aires and the Pampa, and very good yields have been obtained. It is thought that the unseasonably cold weather of late March may deter some sheep men from shearing their animals.

Hemp Cultivation in the Argentine

There is already a limited production of Hemp in the Republic. As the result of a study made recently by an expert specially commissioned by the Ministry of Agriculture to investigate the subject, an attempt is to be made to increase the area under this crop.

The report indicates that in the opinion of the investigator the zones of Alvear in the province of Mendoza, and the Upper Valley of Rio Negro, are the best adapted for the purpose by reason of natural conditions and the type of men farming there.

Propaganda is to be undertaken in these districts in order to encourage the farmers to cultivate Hemp as a supplementary crop.

The Jute Trade

The building industries continue to be well occupied. In this connection it is noteworthy that the National Mortgage Bank of the Republic in its annual report recently published states that investments in new constructions tend to increase, as shown by the applications for building permits in the Capital City. The value of these which was in 1935 $ 113,993,731 pesos, rose to $ 166,523,012 pesos in 1939. The report says that as an immediate consequence of the war building costs were increased because of the higher prices of some imported materials and this in certain cases caused the proprietors to suspend building operations. This, however, can only be explained by extreme prudence or an excessive and unfounded timidity, goes on to say the Report, seeing that the ingenuity of builders can limit the increase of cost to a minimum, by the selection of native materials, without affecting the appearance of the structure or its rentability.

The meat packing plants are well occupied. The future looked a little doubtful recently when the British authorities appeared to be in no hurry to renew meat contracts with Argentine firms ; but it appears that whatever difficulties existed are in process of being smoothed out, and a prompt and favourable solution is anticipated. Meat exports meanwhile continue on a high plane.

The bag industry is busy supplying the demand for bags for the maize and yerba mate crops, now in process of being harvested.

Importations

Two cargoes arrived from India during March. The S. S. "Tymeric" brought 5,625 bales of jute, 2,692 bales of canvas, 1,134 bales of bags and the S.S. "Myrtlebank" had on board 4,052 bales of jute, 3,790 bales of canvas, 781 bales of bags.

Other March arrivals were :—

United Kingdom	290	bales of yarn
	229	,, ,, fabric
Belgium	46	,, ,, fabric
	18	,, ,, matting
Brazil	38	,, ,, fabric
	36	,, ,, cloth

Jute Prices

Current prices for jute manufactured goods, in which there have been no recent changes, are as set out below:—

Canvas :—

9 oz.	× 40″	22	cts. p. yard.
10 ,,	× 40″	24½	,, ,,
10½ ,,	× 40″	25½	,, ,,
16 ,,	× 27″	36	,, ,,

New Bags :—

Maize	9 oz.	× 48″	31½	cts. each.
Barley	9 ,,	× 52″	34	,, ,,
Oats	9 ,,	× 58″	38	,, ,,
Wheat	10 ,,	× 47″	34	,, ,,
Flour	10 ,,	× 52″	37¾	,,
Flax	10 oz.	× 50″	36¼	cts. each.
Maize Pickers	75 oz.	× 120″	$1·18¼	

Tarpaulin :—
22 oz. × 44″ 68¾ cts. p. yard.

Special Cloth for Yerba :—
17/18 oz. × 36″ 47½ cts. p. yard.
17/18 „ × 40″ 52 „ „

Used Wheat bags 26½c. and 24½c.

Best Patent Twine :—
Imported $2·50 per kilo
Local $2·10 „ „

BRAZIL

Recent reports from Brazil indicate that business conditions are generally satisfactory, with factories well employed, and construction operations fairly active.

There is unusual activity in the exporting of meat, and contracts which have been made with Great Britain are said to be sufficient to absorb the whole surplus production for the year.

The outbreak of war had a serious influence on the Brazilian coffee trade, as it eliminated the very important German market; but it is now believed that increased purchases by Great Britain, France and the United States will compensate for this loss.

Cordage Manufacture In Argentine

INCREASE IN LOCAL PRODUCTION

THE *Economic and Commercial Conditions in the Argentine Republic* issued by the Department of Overseas Trade in June 1939 reveals that the rope trading picture in the Argentine has been changed by the increased local manufacture and restriction on imports from Italy.

Many orders for hemp rope, formerly almost exclusively an import from Italy, have been placed with the United

Kingdom as a result of restrictions on imports from Italy during the first quarter of 1939. The Argentine is experimenting with local cultivation of hemp.

With increasing local manufacture of Manila rope, whose quality is steadily improving, imports from the United Kingdom fell from 1,410 tons in 1937 to 724 tons in 1938. Better grade rope, however, continues to be imported, especially for navy and navigation department uses, and for British-operated railways.

Seaming twine (*hilo patente*) imports, formerly almost entirely of Italian origin, dropped from 852 tons in 1937 to 704 tons in 1938. Since the beginning of last year, some orders have been placed with Great Britain. A great deal of *hilo patente* is produced locally from Italian fibre.

Most of the Argentine's bag sewing twine has come from Great Britain. But imports in this product fell from 466 tons in 1937 to 237 tons in 1938, due to the increased use of locally manufactured cotton twine. Although its strength and rot resisting power are lower, it brings about the same price as flax twine.

Belgium dominated the market in sisal binder twine in 1938 with the United States in second place. Of 2,996 tons imported in 1937, 1,158 came from Belgium and 1,123 from the United States. Imports increased to 3,656 in 1938. British imports were held down by the higher price of the product from that source. The sale of better quality sisal has been handicapped by a 1935 Customs House decree which requires that all imported binding twine for harvesting be dyed red, making distinction in quality difficult. This product is also being manufactured locally on a large scale.

Sack Industry in Canada

USED 78,640,000 YDS. OF JUTE CLOTH

ACCORDING to the March issue of the London *Jute Review* twenty-seven establishments were engaged in manufacturing cotton and jute bags in Canada in 1938. Two firms have dropped out since the previous year. The gross value of the production of the whole industry amounted to $8,269,025 and was $935,442 smaller than the year before. After deduction of cost of materials used, fuel, electricity and wages, $1,806,448 were added by manufacture.

Details of the principal goods produced are given below :—

Principal Products	Quantity in number		Selling value at Factory (in dollars)	
	1937	1938	1937	1938
Bags manufactured—				
Jute ...	62,304,810	60,061,740	4,725,104	4,429,404
Cotton ...	47,060,879	46,111,000	4,044,074	3,513,092
All other ...	...	...	71,508	60,419
Bags repaired ...	...	...	307,246	246,940
All other products	..	...	56,535	19,170
Total value of products ...	...	...	9,204,467	8,269,025

In 1938 the month of highest employment of wage earners was October with 821 persons so employed, while April with 696 persons was the month of minimum employment. Female wage earners represented roughly 62% of the total.

The Canadian sack industry used 78,640,000 yds. of jute cloth and 34,150,000 yds. of cotton cloth.

HENEQUEN TRADE IN MEXICO

Exports of henequen fibre from Progreso, Yucatan, during December 1939 totalling 32,157 bales, bring the total for the year to 433,715 bales, compared with 10,300 bales exported in December 1938 and 277,993 in the calendar year 1938, states the New York *Industrial Fibres Review* in its March issue.

The exports of mill tow, sisal bagasse, and sisal tow to the United States from the port of Progreso amounted to 4,078 bales weighing 433,604 kilogrammes (of 2·2046 pounds each) during December.

Of eighteen cordage mills in Merida and vicinity, only two were idle at the end of 1939. It is reported that production of binder twine has been increased to about 4,500 bales (of 50 pounds each) a week.

Stocks of sisal fibre in Yucatan were estimated at around 30,000 bales, as at 31st December, 1939. A bale of sisal or henequen weights approximately four hundred pounds in Yucatan.

MEXICAN SISAL SHIPMENTS
SMALLER IN FEBRUARY

Exports of sisal from Progresso, Yucatan, during the month of February last totalled 17,420 bales or 3,212,661 kilograms, according to figures supplied by the American Consulate at Merida, compared with 30,594 bales or 5,646, 396 kilograms in the preceding month of January, 1940.

Exports to the United States in February were 17,420 bales or 3,212,661 kilograms, against 28,151 bales or 5,194,617 kilograms in January.

Exports of sisal bagasse and sisal tow to the United States were 1,002 bales in February compared with 4,283 bales in January, while exports of sisal rope to the United States amounted to 14,819 kilograms, against 32,991 in January, and exports of sisal twines to this country were 311,945 kilograms, against 446,024 kilograms.=*"Daily Mill Stock Reporter."*

Binder Twine

MEXICO GRANTS EXPORT BOUNTY

THE issue of March 28 of the *Daily Mill Stock Reporter* has the following :—

A Mexican decree promulgated in the Dairio Official of February 14, 1940, granted a subsidy on binder twine exported by the Association Henequeneros de Yucatan, equivalent to the amount of the additional export tax imposed on the product in accordance with the decree of August 27,1938, according to a report from the American Embassy at Mexico City.

The bounty was granted for the declared purpose of maintaining the normal exports of binder twine. The Mexican export tax on binder twine is 12 per cent. of an official valuation, at present fixed at 0·12 peso per gross kilogram.

SUGAR BAGS

CUBAN REQUIREMENT AND PRICE CONTROL

The American Consulate General at Havana, Cuba, reports that the Cuban sugar industry requires approximately 16,000,000 raw sugar bags annually. These jute bags come from British India although the distribution may be made by American concerns. About 70 per cent. of the annual sales of jute bags to Cuba's sugar industry are said to be made by firms which maintain stocks on the island while the remainder is purchased from concerns in the United States. Decree No. 143, published in the Official Gazette and effective on January 23, 1940, provides for the fixing of prices of jute bags intended for use as sugar containers, in accordance with a definite procedure and forbids sales at higher prices. Profits of dealers or agents are limited to 10 per cent. Stocks of jute bags for sugar in Cuba, in late January, apparently were rather small.

Fear of Prices Dropping Lower

BRITISH OPINION ON JUTE TRADE

SURVEY OF CONDITIONS PREVAILING

REVIEWING the prospects of the jute trade the London correspondent of the *Statesman*, writing on April 20, states :—

A reason for the recovery in prices for both raw jute and Calcutta goods is being looked for, because, on the face of things, there would seem to be more likelihood of the trade becoming adversely affected by the new turn of events in the War.

I mean the invading of Norway and Denmark, which two countries and particularly the latter, absorb considerable quantities of jute goods. Bacon wrappers to the extent of millions of yards have been consumed by Denmark for some years past supplied by Dundee manufacturers, who will most certainly feel the lack of this busness. It will take many years to build it up again too.

It is estimated that there are three million pigs in Denmark, which are most likely to be all killed in the near future by the Germans in order to supply food for the people of that country. Otherwise the pigs would die for want of feeding stuffs, of which Denmark imported huge quantities.

Indeed, the whole fabric of trade in Denmark will be ruined by the invasion, however long it may last. In addition, about the only jute goods that will be sent to either Norway or Sweden so long as the War ranges in Scandinavia will be sand-bags, and this is about the only hope that Dundee manufacturers can have, the supplying of these to maintain the stocks of the British Government, which will almost certainly have to supply many millions for the conduct of the War in Norway once our Army secures contact with the enemy in that country.

SELLERS RESERVED

Owing to the great uncertainty of the future, sellers of all commodities in the jute trade have become rather more reserved, but not before prices have come down to a fair extent. Buyers consider that values may probably come down further, especially Dundee yarns and cloth, the latter still being particularly dear in comparison with Calcutta goods. Though the rate for 10 oz. 40″ hessian has been reduced to 5·61*d*. nett and for 8 oz. to 4·61*d*. nett, Calcutta goods for shipment can be obtained at 3·63*d*. and 3·03*d*. nett respectively, differences which immediately put Dundee goods out of the reckoning if the buyers are able to wait for their supplies.

New Jute Order

The "Statesman" of May 3, understands that His Majesty's Government has placed an order through the Controller of Purchases of jute for one million yards special tossa jute canvas.

It is little wonder then that the imports of Calcutta goods into this country are as heavy, if not heavier than ever. There is not the same amount of information available in regard to imports and exports meantime, owing to the secrecy maintained, but it is known that there are ample supplies of Calcutta goods coming in, while raw jute also is being imported in sufficient quantities to guard against any fears of a shortage for some time to come. Much of this jute arriving, of course, was bought at much dearer prices than those ruling to-day, but both spinners and manufacturers have been making very good profits up till now, and they can still cover in any sales of yarns and cloth a gain on the rates now ruling.

The full group of *Daisee*—2/3 to Dundee dropped to £31 15s. as the lowest point since the advance took place following the commencement of the War, and though a recovery has taken place recently, there is little faith placed in it.

Reports regarding the new crop of jute have so far been very favourable, and this always has a weakening effect on the market at this time. No prices have yet been named for new crop *Daisee* and *Tossa*, but it may be due to the fact that sellers were so badly caught last season and it is reported that there are many who have not even yet covered in some of their "bear" sales of last season. The Late Shipment Fine clause, of course, does not operate in War Time, so that the sellers can supply the jute any time they care to. It is said that some shippers and also their agents stand to lose considerable sums of money over last year's "bear" sales.

DUNDEE PRICES

ACCORDING to the telegrams received by the *Statesman* on London Commodity Markets, the prices of raw jute in Dundee were as follows :—

—	12th April 1940.	19th April 1940.	26th April 1940.	3rd May 1940.
Firsts (£ per ton)	49	48	46	47
Lightnings (£ per ton)	44	44	42	43

Making Textiles Water Repellent

NEW PROCESSES

A SERIES of new British patents have been granted for new process for making textiles water repellent, states the March issue of the *Jute Review.*

A new water repellent agent is the subject of a patent granted to I. C. I. and M. A. T. Rogers.

This invention relates to the manufacture of new organic ammonium compounds, useful in treating textile materials especially for the purpose of conferring water repellent properties thereon. According to the invention the new organic ammonium compounds are made by effecting combination between halo-genomethyl compounds.

Another invention, which is included in this patent, relates to the application of the new water repellent agents in a process for treating textiles.

The inventors found that in applying these compounds to textiles which are of vegetable origin or which are composed of regenerated cellulose, e. g., cotton, linen or viscose rayon, it is advantageous to combine a particular method of applying the compounds to the textiles, namely the process already described, in respect of other classes of organic ammonium compounds with a process for rendering the textiles crease-resistant by treatment with a synthetic resin or with resin-forming constituents.

Textiles which have been made crease-resistant by impregnation with a synthetic resin usually have a harsh feel and are stiffer in handle than is desirable. Hitherto, it has not been possible to obviate this disadvantage by the use of softening agents because the non-softening agents are not suitable for use in a process having the special features (e. g., application of heat) of these "anti-crease" processes.

It is claimed that the new organic ammonium compounds are applied to textiles in conjunction with the anti-crease agents, then, according to the concentration of agent used, the textiles are made soft and crease resistant, or soft, water-repellent and crease-resistant, these properties being resistant to normal laundering and dry-cleaning operations. For instance, concentrations of the ammonium compounds of the order of 0·25 to 2 parts per 1,000 parts of impregnating liquor give a soft, crease-resistant finish, whereas concentrations of the order of 10 to 50 parts per 1,000 parts of impregnating liquor make the fabric soft, water-repellent and crease-resistant.

Britain will send Jute to Spain

According to an "Associated Press" message emanating from Madrid and published in the "Evening Standard" of March 19, it is learnt unofficially that Spain's principal sales to Britain under the new Anglo-Spanish trade treaty signed recently, will be fruit, minerals and wines, while Britain will supply Spain with fertilizers, jute, cotton and other raw materials.

The methods of making textiles crease-resistant which come into consideration for the purposes of this invention are those in which there is formation of a synthetic resin *in situ* by impregnation of the fabric with a partly condensed resinous condensation product derived from a aldehyde or aldehyde yielding substance and urea, thiourea, or a urea or thiourea derivative or a phenol or an amino derivative of 1:3:5:

triazinc or a substitution product thereof, for example, melamine under neutral, acid or alkaline conditions. The impregnation is followed by a drying process, preferably carried out at low temperature, and finally by a heat treatment at a moderately elevated temperature, preferably above 100°C.

The same firm has taken out another British patent for a process for rendering fibrous material water-proof.

According to this fibrous materials are made water-proof by treating them at elevated temperatures with an aqueous solution of zirconium oxychloride and precipitating a soluble or insoluble zirconium compound therefrom on or in the fibre. The solution may be buffered by the addition of sodium acetate.

Moreover, organic carboxylic and sulphonic acids or their soluble salts may be employed in conjunction with the zircomium compound. It is especially suitable to employ such compounds as themselves are of water-repellent character such, for instance, as the higher molecular fatty acids, i. e., the fatty acids containing a number of carbon atoms which corresponds to the numbers contained in the fatty acids of the natural fats and oils.

The process of this invention can be carried out in a very simple manner. The textile fibres or fabrics may be treated for a short time, for example several minutes, at elevated temperature (above about 50°C.) with an aqueous solution of the zirconium compound, squeezed or hydro-extracted and dried. The zirconium solution may contain sodium acetate or an organic substance of the above kind. According to another method the material may be first impregnated with the solution of an organic compound of the above kind, squeezed, if desired dried, and treated with the zirconium solution as described.

Hessian for Road Reinforcement

A NEW POTENTIAL MARKET FOR JUTE FABRICS

DETAILS OF TEST CARRIED OUT IN CALCUTTA

It may be recalled that tests were carried out with specially treated jute fabrics on a selected portion of Strand Road, one of the busiest thoroughfares of Calcutta, carrying heavy traffic, on December 27 and 28, 1939. Previous experiments in road surfacing with hessian did not prove successful owing, mainly, to rotting of the material under monsoon conditions. The fabric used in the present test was specially treated to resist rotting and the result is awaited with great interest. Should the present experiment prove successful a very important potential market for jute fabrics may be opened.

The following report by the Chief Chemist of the Research Department of the Indian Jute Mills Association, Dr. W. G. MacMillan, describes in broad detail, the fabrics used and their laying on the road :—

The test was carried out with the sanction of the Chief Engineer, P. W. D., Bengal, and the piece of road selected was on the Eastern flank of Strand Road opposite Outram Ghat, between lamp posts 26 and 32.

Fabric Specification

4½ Porter
4½ Shot
Warp 2 ply, 7 lbs.
Weft 2 ply, 10 lbs.
Width 28½″
Weight per yard 6½ ozs.

Description of Fabrics used in the Test

1 Untreated Hessian

2 Treated with Bitumen

3 Pretreated with creosote and then with bitumen

4 Pretreated with creosote-cuprinol mixture and then with bitumen

Four test stretches of road were laid with the treated jute fabric, each stretch being 60×14 feet. An intervening space of approximately 20 yards was allowed between each test stretch. The existing road surface, measuring 3,360 feet, was picked up to a depth of 2″ and a layer of 2—2½″ stone metal laid and thoroughly consolidated to give a water-bound surface. The road was then opened to traffic for a couple of days. Before laying the hessian, the water-bound surface was thoroughly cleaned and freed from dust by means of wire brushes and the stone metal exposed to a depth of ¼″. When the surface was obtained thoroughly dried and cleaned, 80/100 penetration "Hotfix"—heated to a temperature of 70°F—was applied by hand in the proportion of 35-40 lbs. per 100 square feet of surface. The fabrics were laid in the following order :—

(*a*) Creosote pre-treated and bitumen impregnated fabric opposite lamp post No. 26.

(*b*) Creosote-Green Cuprinol and bitumen impregnated fabric opposite lamp post No. 28

(*c*) Bitumen impregnated fabric opposite lamp post No. 30

(*d*) Untreated jute fabric opposite lamp post No. 32

In the latter case the test section of road was divided into two and one-half of the untreated fabric was given a second coat of "Hotfix" on the top surface at the rate of 40 lbs. per 100 square feet. The fabric was topped with 1/8″ chips and rolled before opening to traffic. The other half of the section was treated with a single coat of 40-45 lbs. "Hotfix", topped with ½" chips at the rate of 4 cubic feet per 100 sq. feet and rolled.

The method of laying in the case of (a), (b) and (c) was to lay the fabric longitudinally on the painted asphalt surface, seal the lappings with "Hotfix" and lay 1/8" chips, at the rate of a cubic feet per 100 square feet, evenly over the surface. The chips were lightly rolled by a 2½ ton petrol roller. The road was finally opened to traffic when all the test stretches had been laid, finished and rolled.

(The above experiment was carried out by Messrs. McLeod & Co., Ltd., under the supervision of Mr. L. K. Gupta in the presence of Dr. W. G. McMillan, Chief Chemist, Indian Jute Research Institute, Mr. King of Bengal Chamber of Commerce and Mr. H. N. Thomas of McLeod & Co., and Mr. Wilson of Gillanders Arbuthnot & Co.)

Sandbags to Destroy Dunes

A NEW USE

THE United States Soil Conservation Service says that sandbags laid across the crests of sand dunes cause the dunes to disperse.

As long as sand dunes have sharp upper crests, the prevailing wind will continue to build them up. If the upper crests are broken into saw-tooth form the wind begins to tear them down. Some farmers in the west in the U. S. A. cut the crest lines of dunes by means of a discing machine or by pulling a pole drag along the crests. The process has to be repeated as the dunes get lower and gradually cut new, clean crest lines. Sandbags, however, follow the crest line down and stick to their job until the entire dune has been levelled.

This method is being used where lands were denuded of sod and where dust storms were numerous in recent years.

Flax Production in New Zealand

Steps are being taken in New Zealand to increase flax growing with special attention devoted to the installation of modern equipped scutching mills, says the March number of *Jute Review*.

The Liral Crown variety of flax is giving exceptionally satisfactory results in the Marlborough district of the South Island, with yields of 8 tons to the acre.

Though the industry is still very much in the experimental stage, there are already indications that a firm of Australian manufacturers is interested in the New Zealand crop, with the possibility that a manufacturing plant will be established in New Zealand.

JUTE IMPORT INTO AUSTRALIA

COMMONWEALTH'S BAN

A Government of India Press-Note states :—Information has been received that imports of gunny bags, gunny cloth and certain other manufacturers of jute into the Commonweath of Australia will not in future be permitted without import licence which are not issuable until the applicant obtains a supply certificate from the Commonwealth Department of Supply certifying that he has satisfied the conditions required by that Department. The object of this restriction is to secure a proper control over those commodities.

COTTON BAGS FOR PEAS

AUSTRIAN GOVERNMENT'S MOVE

The U. S. A. Department of Agriculture announces that cotton bags will be specified for sacking Austrian winter peas and hairy vetch accepted as collateral by the Commodity Credit Corporation in connection with the 1940 seed loan programme in Pacific Northwest states.

Use of cotton bags in this project was described as another attempt on the part of the Department to develop new uses for cotton products. From 750,000 to 1,000.000 bags may be needed to sack the entire 1940 crop of Austrian Winter peas and vetch it was estimated.

DUTCH JUTE TRADE

POSITION DURING JANUARY

Condition of the jute trade in Holland as revealed in the March issue of the London *Jute Review* is given below :—

JUTE ARRIVALS

Arrivals of raw jute in Holland amounted to 308 tons in January, 1940, compared with 777 tons during the corresponding month of the previous year.

YARN SUPPLIES

Yarn supplies to the Netherlands improved in January, compared with the earlier months of war. During January 471 tons which is 32% more than the previous month, arrived. Of these Belgian spinners supplied 339 tons and British spinners 131. Yarn imports are still smaller than before the war when 782 tons arrived in Holland in January, 1939.

CLOTH

A marked improvement is noticeable in jute cloth supplies for Holland from abroad. Larger arrivals of jute goods from Belgium brought the January figures up to 296 tons which compare with 31 tons for the previous year. Belgium supplied 296 tons, France 16 tons.

Holland has started to export jute goods again. During January 13 tons were shipped to foreign countries. No news of destination is known. Last year the Dutch jute industry exported not less than 163 tons.

SACK SUPPLIES

Holland is now buying sacks from British India, Belgium and Great Britain. During the month of January, 1940, 110 tons arrived from India, 11 tons from Belgium and 6 tons from Great Britain. The German industry which used to supply part of Holland's sack import has disappeared from the scene altogether. Total imports of sacks are far below normal, amounting to 127 tons in January, 1940 against 436 in the corresponding month of the previous year.

JUTE CARPETS

Imports of jute carpets into Holland came to 24 tons valued gld. 26,000 as against 25 tons worth gld. 25,000 in January, 1939. The Belgian industry supplied the bulk, 17 tons valued gld. 18,000, the rest being imported from France.

IMPORT RESTRICTIONS IN GREECE

JUTE AND ALLIED FIBRES

The following are extracts from the *Board of Trade Journal*, dated the 28th March, 1940:—

The Commercial Secretary to H. M. Legation at Athens reports that a Greek Decree No. 23910, of 26th February, 1940, provides for the issue of import licences for the goods indicated below (among others) providing that they were ordered from abroad before 9th September, 1939, and subject to the import regime in force with each country at that date.

The Decree also provides that goods for which importers held an import quota for the second half of 1939 can be imported to the debit of such quotas, whilst goods ordered in excess of such quotas may be cleared upon payment of a premium of 20 per cent. of the value to the Greek Government. The issue of import licences is conditional upon the goods being cleared from Customs up to 31st March, 1940, for goods already arrived and up to 31st May for goods not yet arrived, to the acceptance by the suppliers of the contract price at which the goods were ordered and to the importer having submitted a declaration to the local Chamber of Commerce that he had such goods on order:—

Tariff No.	Description.	Classified on Quota List.
205-206	... Cordage and twine (except of esparto)	C
207	... Yarns of linen, hemp, jute	C
208	... Fabrics of linen, hemp, jute	C
216	... Carpets, mats, etc., of hemp, esparto, jute, etc.	C

HEMP TRADE IN PHILIPPINES

1939 EXPORT HIGHEST SINCE 1929

Balings of hemp in the Philippine Islands during 1939 approximated 1,400,000 bales, the highest figure since 1929 and an increase of 25 per cent. over the 1938 total of 1,116,000 bales, reports the American Trade Commissioner at Manila.

Hemp exports from the Philippines during 1939 aggregating about 1,355,600 bales also were the highest for any calendar year since 1929 and represented an increase of almost 26 per cent. over the 1938 exportations of 1,077,000 bales. The principal export gains were in shipments to the United States and Canada, and the United Kingdom.

· Export of Manila hemp in bales from the Philippines to different principal countries are given below:—

Country		1939	1938
United States and Canada	...	397,400	227,751
United Kingdom	...	348,100	265,620
Other Countries in Europe	...	226,200	215,669
Japan	...	281,500	292,213
Australia and New Zealand	...	29,900	27,915
Others	...	71,900	48,681

MANILA HEMP MARKET

WEAK IN JANUARY

The American Trade Commissioner at Manila reports that that the hemp market in the Philippines was weak and uncertain throughout the month of January.

The London market was reported locally to have been extremely dull and irregular, with the Fibre Control Board reducing prices substantially. Demand from Continental Europe also was unsatisfactory. Quotations in Manila were practically stationary during the first three weeks of January but declined subsequently, with average prices for the principal cordage grades at the end of January about 21 per cent. below those prevailing at the beginning of the month. Davao prices showed a somewhat similar tendency although the decline was less pronounced, having amounted to only 11 per cent. Most holders appeared to feel that current prices were too low but a fair amount of business was reported during the month, nevertheless.

Bailings during January were fairly large, having totalled about 112,000 bales, a gain of nearly 4 per cent. over January, 1939. Exports amounted to 106,000 bales, an increase of 20 per cent. over the corresponding figure for January, 1939, owing to heavy shipments to the United States and other countries."

CHINA

IMPORTS OF JUTE AND SUBSTITUTES

Imports of raw jute, jute goods and substitute fibres into China from British India as recorded in the *Trade of China* Vol. I part 2, are given below, figures being in quintals :—

	1938	1939
Jute (raw)... ...	51,157	84,179
Gunny Bag (new)... ...	22,481	33,876
,, ,, (old)... ...	31,000	27,841
Hessian Cloth	13,961	7,505
Cordage, Twine and Rope ...	4,214	4,061
Flax, Ramie and Hemp Raw ...	141	185

RAMIE

AUSTRALIAN FACTORY TO PRODUCE CLOTH

ACCORDING to the *Jute Review* a company has been formed in Australia for the manufacture of ramie cloth. The company intend to run two factories, which will be built before the end of the year. Mr. John Snelling, the manager of the company stated recently that the main factory may likely be erected in Ingham, Queensland, and the other at Lismone or Sydney. Ramie, Mr. Snelling explained, is produced from the bark of the plant ***Boehmerianiva,*** which is being cultivated in Northern New South Wales and Queensland, where it thrives. It is of the stingless nettle variety, grows to a height of six feet, and is perennial. The stalks are cut and chemically treated to remove the bark.

Mr. Snelling claimed that ramie was eight times stronger than cotton, seven times stronger than silk, and three times stronger than the finest flax.

Until now production had been too costly. Ramie Development Co., Ltd., which was formed in Sydney three years ago for experimental purposes, had developed a process whereby ramie could be manufactured at one-third the previous cost. This would enable it to be sold at a price comparable with cotton.

DE-GUMMING RAMIE

In this connection it might be of interest to refer to a British invention of de-gumming ramie.

Up to now the de-gumming process has been the reason for the high price of ramie yarn. Otherwise, manufacturers of sail-cloth and other heavy canvas would have taken up ramie as a raw material long ago. The new process evolved during the last three years consists of a simple secret process by which the cost of de-gumming is reduced enormously, and the yield of the fibre increase. As a result, the ramie yarn obtained by this new process is 20%, to 30% cheaper than linen, and superior to it in many ways.

Apart from its use in the weaving of heavy canvas, it seems that the new applications of canvas, such as for aeroplane wing fabrics and for portable hangers are very successfully made from this material.

Rosella Fibre

Recent large orders for sacks made from the rosella fibre given by the Dutch East Indies Army means big support for the culture of rosella which is still in its infancy and is mainly carried on, as the above territory is concerned, in the Principalities of Middle Java, states the London "Jute Review" in its March issue.

In order to meet the increased need for this fibre it would be quite possible next year to extend the area under cultivation.

Local circles in Java are contemplating to institute the making of rosella cloth as a house industry among the natives, so as to usefully complete the quantity of the former made by mechanical process.

New Factory For Java

According to a Java correspondent of the London "Jute Review" the Mangkoenegoro Enterprises, which own extensive sugar plantations in Java, intend building a sack factory capable of producing 1¼ million sacks a year. As the plantations use annually 500,000 sacks for their own sugar production, this would leave a quantity of 750,000 sacks which, it is believed, would find an easy sale to other users in Java.

Trade Notes

CUTTINGS FROM THE BRITISH PRESS DURING MARCH

Emergency Legislation

In exercise of the powers vested in the Minister by legislation relating to the diseases of animals, this Order prohibits the landing in Great Britain of meat or offals from a prohibited country if they are packed, wrapped in cloths, bags, sacking or similar material which are not made wholly of jute, hemp, flax, of prescribed weave showing indelible red stripes three-eighths of an inch wide ; or similar wrappings with the words "imported meet" painted, printed or stencilled. Wrappings of stockingette or paper are also permitted. - " Labour "

Ersatz for Jute

After lengthy experiments Spanish experts announce that esparto grass can be used as a substitute for jute for many purposes. It is estimated that £1,000,000 a year will be saved in jute imports.

The substitute can be used in manufacturing sacks, as packing for stitching bales, and lining ropeshoes. - " The Daily mail "

Jute Import Bills

A new development, of interest to Money Market circles, has sprung up through the exigencies of war finance. This is the practice of the Ministry of Supply accepting bills drawn upon it by impoters of goods, raw materials and so on, which are acquired by the Ministry concerned.

Thus far the bills created and accepted appear to be connected with jute imports. Apparently, the importers of the raw material are not themselves concerned with its conversion into manufactured goods. Requiring cash, they draw upon the Ministry of Supply and, having got the bill accepted, can discount it at the finest of rates. This latter is obvious because the bill is, after all, Government paper. - " The Financial Times "

Monthly Notes on Progress of Schemes

THE following is a short review to indicate the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

The only important change to report is that Mr. D. L. Mazumdar, I.C.S., joined his duties as Secretary, Indian Central Jute Committee, on the 2nd May, 1940, relieving Mr. C. R. Nodder, Director, Technological Research Laboratories, who had been officiating as Secretary in addition to his duties since the 28th July, 1939.

A meeting of the Special Sub-Committee of the Indian Central Jute Committee appointed to consider certain tentative proposals for the stabilisation of jute prices was held on the 24th April. The Sub-Committee decided that in the first instance the tentative proposals should be circulated to the Jute Trade and other interests concerned for their criticism, contents and suggestions. This has been done and the replies have been asked for by the 25th May, 1940. It is proposed that the comments of the various interests concerned when received will be examined by the Special Sub-Committee which will draw up a concrete scheme for circulation to the various bodies engaged in jute trade to elicit their opinion.

Marketing and Transport

The work of the Marketing section has been principally devoted to revising the original draft of the First Report on the Marketing and Transport of Jute. The draft was reviewed chapter by chapter by an *ad hoc* Committee appointed in January last and the Report has now been completely revised in the light of the Committee's suggested amendments, also in regard to the general construction, inclusion of references, etc. The work was completed at the end of last month and the draft has been circulated to the members of the Publication Sub-Committee for their perusal.

The Committee's launch "The Lord Linlithgow" went into commission on Monday, 22nd April and will be used for the next three months in crop inspection work.

Agricultural Research

Pre-sowing cultivation of fields was done and lay-outs of the proposed experiments completed in the field.

The germination of *capsularis* quality trial is satisfactory while that of *olitorius* quality trial is not quite so, being patchy and irregular. The plants though rather stunted due to the prolonged drought, have stood up well to the adverse weather conditions.

The Sabour Seed Jute experiment was analysed and results obtained were very similar to that of Pusa experiments. The results show that sowing seed jute in lines was as efficient as broadcasting and that there was a significant increase in yield with manuring.

One hundred and seventy- one slides were prepared for study of the development of fibre and the whole sequence from the commencement of the development to the cessation has now been worked out. It has been noticed that the maximum growth of fibre took place when the plants were 2 to 3 months old adding from 4 to 6 layers of fibre-cells and it gradually decreased as the crop matured, and towards harvest time only two more layers were added. On the cessation of growth the sieve tubes, phlœm parenchyma and rays totally collapsed and in the larger rays big gaps were formed. The cortex also collapsed to such an extent that the stem outline was very wavy having ridges and depressions.

Technological Research

The work in the various departments of the Technological Laboratories is proceeding steadily according to programme.

Possible methods of specifying fibre quality from the results of small-scale spinning trials and fibre tests are gradually becoming clearer. Whatever method is adopted it seems clear that if it is to be of practical use in mills it will be necessary for spinners to become familiar with the significance of the various properties upon which the specification of quality is based and for a body of data to be accumulated, in co-operation with the spinners, which will enable the specification to be utilised in judging the suitability of fibre for particular purposes.

The developments in this direction which are visualised are as follows. A yarn will be spun by a standard, reproducible process from a representative fibre sample (as small as 10 lb. in weight) and a number of measurements on the fibre sample as received will be made. A report will then be prepared stating the values found for the various properties examined. The most important measurements will no doubt be :—

Quality ratio of the standard yarn.

Co-efficient of variation of the standard yarn.

Degree of speckiness of the yarn.

Amount of barky matter present in the root end of the fibre.

Stiffness of the root end of the fibre.
Lustre of the fibre.
Colour of the fibre.

It is contemplated that the degree of barkiness of the root end of the fibre and the stiffness of the root end might be divided into five grades, as follows :—

Proportion of Barky matter	*Stiffness*
A. Very High.	A. Very Stiff.
B. High.	B. Stiff.
C. Medium.	C. Medium.
D. Fairly Low.	D. Fairly Soft.
E. Low.	E. Soft.

A great deal of information could then be conveyed by a formula such as :—

96/20 ; D/C.

from which it would be understood that the standard yarn spun from the sample had a quality ratio of 96 and a coefficient of variation of 20% and that the root end of the fibre had a fairly low proportion of barky matter and was of medium softness. The formula could be amplified and made more useful still by including other properties, such as yarn-speckiness and fibre colour, lustre and softness. As has been noted in earlier reports it is proposed that in all standard spins a standard proportion of the root end (20% by weight) should be cut off before spinning and the quality of this portion assessed separately. No other procedure seems to be generally applicable and it is very desirable that one standard process should be used throughout.

It is only by experience and by co-operation with mills that it will become possible to judge from such a formula for what purpose the fibre is suitable. It is realised that a parcel of fibre might, in one mill, be mixed with other qualities, without cutting the root end, and put forward for, say, sacking warp, whereas in another mill it might be cut and mixed with fibre of other qualities and put forward for, say, "A class" hessian warp. In a third mill it might receive yet another treatment and form part of a batch for "C class" hessian warp, and so on.

It may be anticipated that it will eventually be possible to utilise quality formulae of the type indicated in making up mixed fibre suitable for various types of yarn. The quantities of each quality in the mix would be arranged to give in the mix a weighted mean for each property which would be suitable for the yarn in view.

It may also prove possible to utilise in a similar way fibre measurements only, dispensing with a trial spin, but in view of the great sampling difficulties and the time involved in fibre measurements the inclusion of a trial spin in the tests is likely to give a quicker and more reliable result. There is probably no reason why trial spins according to the standard procedure which has been worked out should not be adopted in mills for the purpose of assessing fibre quality.

Improvement of Jute Forecast

The organisation required for carrying out field survey this season has been completed with the appointment of necessary staff. The Committee's District Agricultural Staff in Bengal consisting of 15 Overseers and 60 Demonstrators who have been taken over temporarily for field work joined at the end of April. The whole staff has now been sent to their respective places of posting after preliminary instructions, and the work of actual enumeration of plots has commenced. The Government of Bengal's contribution of Rs. 62,500/- for this work has been received.

Statistics and Information

The work of revising the first draft of the report on World Consumption of Jute in 1938-39 in the light of suggestions made by the members of the Publications Sub-Committee

(Statistics and Information Section) is proceeding. A short note explaining certain points of the report was prepared for one of the members of the Sub-Committee.

Materials for the Bulletin were collected in the usual way and three notes were prepared for the Bulletin by the Assistant Economics Officer. The collection of information on jute substitutes is proceeding regularly and the preparation of a detailed report on the subject will be undertaken as soon as sufficient material has been collected. The collection of information regarding the recommendations of the Bengal Jute Enquiry Committee is also in progress.

An additional statistical clerk for the Statistics and Information Section was appointed from 1st May.

Publicity

There is nothing of particular note to record. The staff have been busy with the usual routine work and work connected with the compilation of the present issue of the Bulletin, which is month by month growing in size and usefulness, resulting in requests from new quarters to be put on the mailing list; some of them also made enquiries as to the annual subscription of the Bulletin, to which the reply had to be made that the Bulletin was not at present a priced publication.

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CONTENTS

PAGE.

Indian Prices during May 149
Production and Consumption of Jute 152
Index Number of Prices 153
Bengal Jute Ordinance 154
Govt. to Buy Jute 156
Registration of Jute lands 158
Bengal Jute—Govt. Efforts in 1938-39 160
Hand-Woven Hessians 160
Sugar in Jute Bags 161
Development of Fibre in Jute 162
Sisal Hemp Fibre Industry in India 163
The Fibre-Agaves 166
Jute World Gleanings 181
World Totals of Agricultural Products 183
Hemp Crop 184
U. S. A. 185
American Interest in Indian Products 186
Conditions affecting Jute in Argentine 187
Brazil Coffee 188
Position of Dundee 193
Sandbag Orders and After 195
Dundee Prices 196
Jute Goods for France 197
Belgian Jute Industry 197
Position in Holland 198
Australian Wheat—Control & Supply of Cornsacks ... 199
China 200
Cordage Fibre Markets 201
Jute Substitutes—Latest to Attract Attention ... 204
"Cabuya" 206

	PAGE.
Phormium Industry in New Zealand	207
Sisal Fibre in Cuba	209
A Set-back to Burlap	210
Jute in Carpets	210
Production of Jute—An Article	211
Bombay Mills' Experiments	211
New British Export Regulations and Ocean Freight Rates	217
Marine Insurance Rates Increased	218
Increment of freight on E. B. & A. B. Rlys.	218
Jute and Flax—An Article	219
Trade Notes	225
Monthly Notes on Progress of Schemes	234
Conversion Table	Inside back cover

Development of Fibre in Jute

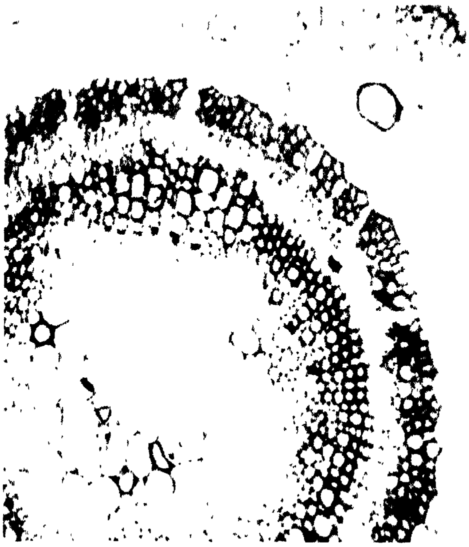

Fig. 1
Formation of first layer

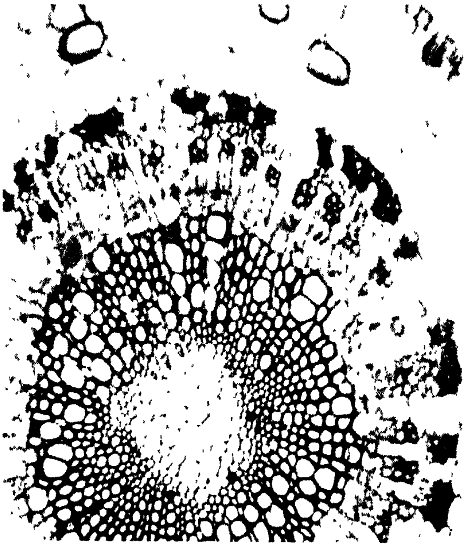

Fig. 2
Formation of second layer (X 120)

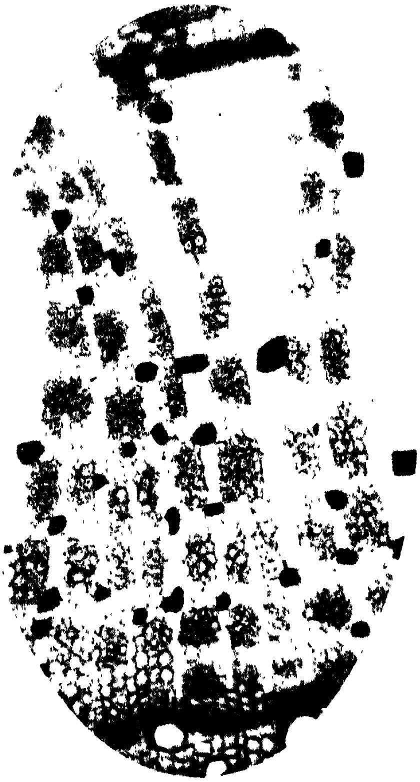

Fig. 3
Fibre layers in mature stem of D.154

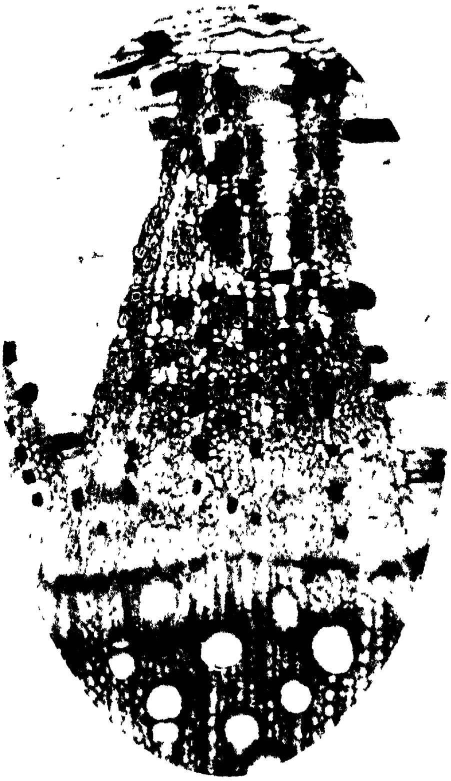

Fig. 4
Fibre layers in mature stem of Chinsurah Green (X 90)

(See page 162)

Indian Prices During May

SHARP DECLINE TOWARDS LATTER PART

LOOSE JUTE

PRICES for loose jute were quoted at the beginning of the month as undernoted:—

Old Crop

(Indian)		Jat			District		
		Rs.	as.	p.	Rs.	as.	p.
Middle	...	12	12	0	12	0	0
Bottom	...	10	4	0	9	4	0

New Crop

(Indian)						
		Rs.	as.	Rs.	as.	
Top	...	12	4	11	12	July-Sept.
Middle	...	11	4	10	12	
Bottom	...	10	4	9	12	

Speculators anticipating the Government of Bengal fixing a minimum price for jute and gunnies in the futures market, operated freely during the early part of the month and rates advanced mainly on this account to about Re. 1/- per maund above those quoted at the opening. Mills and balers however showed some interest at the lower levels. On May 18 the Government promulgated an ordinance fixing maximum and minimum prices in the futures markets as follows:—

Jute Rs. 90/- per bale for L.J.A. First Marks (Maximum)
„ „ 60/- „ „ (Minimum)
Hessian Rs. 21/- per 100 yds. 8 oz. 40″ (Maximum)
„ „ 13/- „ 100 „ 8 „ 40″ (Minimum)

During the following week rates weakened in sympathy with fatka movements.

The war situation in Europe however has overshadowed all business and during the latter part of the month the serious turn in events was reflected in general trading conditions. Markets for practically all commodities became depressed, and jute was no exception. Balers and mills withdrew from the market and a sharp decline in prices was the result. In the weak market the reports that the new crop was expected to yield about two annas higher production than that of 1939, served also to depress rates.

At the end of the month quotations were:—

Old Crop (Nominal)

(Indian)		Jat	District
		Rs. as. p.	Rs. as. p.
Bottom	...	8 8 0	8 0 0

New Crop

(Indian)		Jat	District
		Rs. as. p.	Rs. as. p.
Top	...	10 12 0	10 4 0
Middle	...	9 12 0	9 4 0
Bottom	...	8 12 0	8 4 0

JUTE FABRICS

The hessian market was active during the first half of the month, demand was fairly keen and a substantial business was reported with overseas markets for positions up to September.

Opening quotations for 9 & 11 porter hessian were Rs. 13/12/- and Rs. 16/14/- respectively for May delivery with a negligible discount for the June to September positions.

Genuine demand coupled with an active fatka market caused a steady rise in prices which on May 16 were quoted at Rs. 15/8/- for 9 porters and Rs. 19/6/- for 11 porter Ready delivery. Speculators were reported to have purchased moderately up to October/December.

Later however a slump set in principally owing to the depressing nature of war reports and the withdrawal from the market to a large extent of the overseas buyers.

Prices rapidly declined and at the close of the month it was reported that little interest was being taken by consuming markets except for small lots of odd widths and weights.

The market rates for standard hessian on May 31 were:—

	Ready			June			July/Sept.			Oct./Dec.		
	Rs.	As.	P.	Rs	As.	P.	Rs.	As.	P.	Rs.	As.	P.
9 porters ...	10	14	0	10	14	0	10	12	0	10	8	0
11 porters ...	14	12	0	14	12	0	14	4	0	13	14	0

HEAVY GOODS

A lively interest was shown in this section of trade during the first part of the month, and fair business was reported in B. Twills, Liverpools, Cornsacks for deliveries up to September. But rates declined rapidly during the second half of the month and prices were marked down to comparatively low levels at the close, with buyers showing little interest.

The opening rates, also those quoted on May 16 and on May 31 are undernoted:—

		Ready			June			July/Sept.		
May 1, 1940		Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
B. Twills ...	...	37	0	0	36	12	0	36	0	0
Liverpools ...	...	41	4	0	41	0	0	40	4	0
Cornsacks ...	...	37	8	0	37	4	0	37	0	0
May 16, 1940										
B. Twills ...	...	40	0	0	39	12	0	39	0	0
Liverpools ...	...	44	0	0	43	12	0	43	0	0
Cornsacks ...	...	39	10	0	39	10	0	39	12	0
May 31, 1940										
B. Twills ...	...	29	0	0	29	0	0	29	0	0
Liverpools ...	...	32	4	0	32	4	0	32	8	0
Cornsacks ...	...	29	12	0	29	12	0	30	0	0

PRODUCTION AND CONSUMPTION OF JUTE

RAW PRODUCE

According to the *Indian Trade Journal* **jute arrivals** into Calcutta and mills outside the Calcutta trade block (excluding road arrivals and arrivals into mills by boats) were as follows :—

From July 1, 1939 to June 1, 1940 ...	9,844,000 bales.
From July 1, 1938 to June 1, 1939 ...	8,817,000 bales.

MANUFACTURED GOODS

Manufactures of jute goods during May, 1940 by the mills reporting to the Indian Jute Mills Association are given below :—

Sacking Bags (in 1,000s)	50,452	or	53,271 tons
Hessian Bags (,, ,,)	63,748	,,	14,015 ,,
Sacking Cloth (in 1,000 yds.)	11,769	,,	4,886 ,,
Hessian Cloth (,, ,, ,,)	143,884	,,	37,963 ,,
Others ...	...		3,567 ,,
Total ...	...		113,702 ,,
Total during April, 1940	...		108,900 ,,

The following are the **stocks of manufactured goods** (cloth and bags) as reported to the Indian Jute Mills Association by its members :—

	End of May		End of April	
	1940	1939	1940	1939
Sackings (lacs of yds.)	1,678	1,578	1,797	1,350
(tons)	70,682	65,830	76,867	56,762
Hessians (lacs of yds.)	2,875	4,704	3,194	4,811
(tons)	69,902	115,210	77,617	116,586

Index Number of Prices

CALCUTTA JUTE

(*Base: July, 1914 = 100*)

Year	Raw Jute (1)	Manufactured Jute (2)	Ratio % of (2) to (1) (3)
Average of 1914-18 ...	77	140	182
„ „ 1919-23 ...	100	142	142
„ „ 1924-28 ...	114	156	137
„ „ 1929-33 ...	59	88	149
„ „ 1934-38 ...	49	69	141
„ „ 1939 ...	80	102	128
Av. of Jan.—Aug., 1939 ...	70	80	114
September, „ ...	77	117	152
October, „ ...	76	126	166
November, „ ...	119	175	147
December, „ ...	130	172	132
January, 1940 ...	124	146	118
February, „ ...	130	130	100
March, „ ...	100	114	114
April, „ ...	99	111	112

The fall in jute prices continued in april, manufactured goods showing a slightly greater fall than raw jute. The disparity of the prices was a little less than average disparity of the pre-war months.

Bengal Jute Ordinance

MAXIMUM & MININUM PRICES OF JUTE & HESSIANS FIXED

GOVERNMENT MEASURES TO CONTROL FUTURES MARKET

AN Ordinance called the 'Bengal Raw Jute Futures and Hessian Cloth Futures Ordinance, 1940' has been promulgated by the Government of Bengal, fixing the minimum and prices of raw jute and hessians in the futures market, according to an Extraordinary issue of the *Calcutta Gazette*, dated May 18.

The prices of raw jute have been fixed at Rs. 60 minimum and Rs. 90 maximum for a bale of 400 pounds net weight, while the prices of hessians have been fixed at Rs. 13 minimum and Rs. 21 maximum for 100 yards of hessian cloth of 40 inches wide and of 8 ounces net weight per yard.

The Ordinance authorises the Provincial Government to appoint inspectors who will be empowered to enter and remain in any premises used or believed to be used for the making or performance of any contract relating to raw jute futures or hessian cloth futures. The inspectors are empowered to make such examination of such premises and of any record kept therein concerning any contract relating to raw jute futures or hessian cloth futures, and take such evidence of any person as they deem necessary.

Anyone found guilty of contravening the provisions of the Ordinance in making a contract relating to raw jute futures or hessian cloth futures will be liable to be punished with imprisonment extending to one year or with fine extending to Rs. 1,000. The penalty for failure to produce any record concerning any contract relating to raw jute futures or hessian cloth futures, when required by an inspector to do so will be fined extending to Rs. 500.

The prosecutions under this Ordinance will be started upon complaint made by an inspector with the previous sanction of the Provincial Government and the cases will be tried by a Presidency or a First Class Magistrate.

The following is the text of the Ordinance :—

The Governor, in exercise of the powers conferred by sub-section (1) of section 88 of the Government of India Act, 1935, is pleased to make and promulgate the following Ordinance, namely :—

This Ordinance, the Bengal Raw Jute Futures and Hessian Cloth Futures Ordinance, 1940, extends to the whole of Bengal.

It shall come into force on the date of its publication in the official Gazette.

In this Ordinance, unless there is anything repugnant in the subject or context,—

(1) "Contract relating to raw jute futures" means a contract relating to the purchase or sale of a screwed bale of raw jute of four hundred pounds net weight, made on a forward basis and providing, in such manner and on such dates as may be specified in the contract, for the payment or receipt, as the case may be, of margin ;

(2) " Contract relating to hessian cloth futures " means a contract relating to the purchase or sale of one hundred yards of hessian cloth of forty inches width and of eight ounces net weight per yard, made on a forward basis and providing, in such manner and on such dates as may be specified in the contract, for the payment or receipt, as the case may be, of margin ;

(3) "Margin" means the difference between the rate specified in a contract relating to raw jute futures or a contract relating to hessian cloth futures and the rate prevailing on such date subsequent thereto as may be specified in the contract.

FIXATION OF MINIMUM AND MAXIMUM RATES

After the commencement of this Ordinance :—

(1) No person shall—*(a)* make a contract relating to raw jute futures at a rate of less than sixty rupees or more than ninety rupees, or *(b)* make *a* contract relating to hessian cloth futures at a rate of less than thirteen rupees or more than twenty-one rupees, or *(c)* pay or receive, as the case may be, margin in respect of a rate of less than sixty rupees or more than ninety rupees in the case of a contract relating to raw jute futures, or in respect of a rate of less than thirteen rupees or more than twenty-one rupees in the case of a contract relating to hessian cloth futures ; (2) every such contract made, and every claim in respect of margin at a rate, in contravention of the provisions of clause (1) shall be void and unenforceable ; and (3) no owner or occupier of any premises shall knowingly permit such premises to be used for the making of a contract relating to raw jute futures or a contract relating to hessian cloth futures, or for the payment or receipt of margin, in contravention of the provisions of clause (1).

Government to Buy Jute

"The Government have decided to take the further step of giving their support to the market in old crop (jute) by taking up sellers' officers of Ready L. J. A. Firsts (London Jute Association's First Mark)—old crop—below a minimum rate," states a "communique" issued by the Bengal Government from Darjeeling on June 3.

The communique adds that the decision is in pursuance of the Bengal Government's policy in relation to jute, the object of which, as already announced, is to secure to the grower of jute a reasonable price for his jute, while at the same time securing to the industry a reasonable margin of profits without raising the price of manufactured goods to a level, which would be injurious to the industry and thus ultimately to the grower.

Immediate steps are being taken to implement the Government's decision.

INSPECTION

(1) The Provincial Government may, by notification in the official Gazette appoint such persons as it thinks fit to be Inspectors for the purposes of this Ordinance within such local limits as it may assign to them respectively.

(2) All Inspectors appointed under sub-section (1) shall be deemed to be public servants within the meaning of Section 21 of the Indian Penal Code.

POWERS OF INSPECTOR

Subject to any rules made by the Provincial Government in this behalf, an Inspector may, within the local limits for which he is appointed.—

(a) enter and remain in any premises used or believed to be used for the making or performance of any contract relating to raw jute futures or contract relating to hessian cloth futures or for the payment or receipt of margin, with such assistants, if any, being persons in the service of the Crown or of any public body, as he thinks fit ;

(b) make such examination of such premises, and of any record kept therein concerning any contract relaing to raw jute futures or contract relating to hessian cloth futures or margin, and take on the spot or otherwise such evidence of any person, as he may deem necessary for carrying out the purposes of this Ordinance ;

(c) require any person having custody of any record referred to in clause *(b)* to produce it ;

(d) exercise such other powers as may be necessary for carrying out the purposes of this Ordinance ;

Provided that no person shall be required under this section to answer any question or give any evidence tending to criminate himself.

PENALTY FOR CONTRAVENTION OF SECTION 3

(1) Whoever, in contravention of the provisions of Sectian 3, makes a contract, relating to raw jute futures or a contract relating to hessian cloth futures or pays or receives margin, shall, on conviction, be punishable with imprisonment which may extend to one year, or with fine which may extend to one thousand rupees, or with both.

(2) Whoever, being the owner or occupier of any premises, knowingly permits such premises to be used for the making or performance of a contract relating to raw jute futures or a contract relating to hessian cloth futures or for the payment or receipt of margin, in contravention of the provisions of Section 3, shall, on conviction, be punishable with imprisonment which may extend to one year, or with fine which may extend to one thousand rupees or with both.

Registration of Jute Lands

An elaborate propaganda machine was set to work towards the end of May on a province-wide scale by the Government of Bengal with the object of convincing the cultivators that the registration of jute lands which is now going on under the general supervision of the Chief Controller of Jute Registration, Bengal is a 'sine qua non' to their general prosperity. "United Press" understands that for this purpose about 22 lakhs of hand-bills and 60,000 copies of a circular letter of the Chief Controller embodying instructions to the cultivators have already been distributed all over the province where jute is grown.

PENALTY FOR FAILURE TO PRODUCE RECORD

Whoever, having custody of any record concerning any contract relating to raw jute futures or contract relating to hessian cloth futures or margin, refuses or, without sufficient cause, fails to produce it on being so required by an Inspector under the provisions of Section 5, shall, on conviction, be punishable with fine which may extend to five hundred rupees.

PROCEDURE

(1) No Magistrate other than a Presidency Magistrate or a Magistrate of the first class shall try an offence under this Ordinance.

(2) No Magistrate shall take cognizance of an offence under this Ordinance except upon complaint made by an Inspector.

(3) No complaint in respect of an offence punishable under sub-section (2) of Section 6 shall be made except with the previous sanction of the Provincial Government.

POWER TO MAKE RULES

The Provincial Government may make rules to carry out the purposes of this Ordinance.

INDEMNITY

No suit, prosecution or legal proceeding whatever shall lie against any person in respect of anything in good faith done or intended to be done under this Ordinance.

BENGAL JUTE

GOVERNMENT EFFORTS IN 1938-39

There was a considerable increase to over 3 lakhs of acres in the area under jute during the year, states the Annual Report of the Department of Agriculture, Bengal, for the year 1938-39, but the total yield fell below that of the previous year by about 13 lakhs of bales. Propaganda for voluntary restriction of jute crop was carried out by Government. A sum of Rs. 11,000 was spent in seeds for substitute crops in April and May 1938 and a number of special Demonstrators were appointed to help in the propaganda. In March 1939 a further sum of Rs. 5,000 was spent on substitute crops for the new crop then being sown.

All stocks of jute raised on Government Farms were sent to the Technological Laboratories of the Indian Central Jute Committee for mill-tests.

HAND-WOVEN HESSIANS

BENGAL GIVES LEAD TO OTHER PROVINCES

That Bengal has given the lead to other provinces in the manufacture of hand-woven and hand-spun hessians, is claimed by the Bengal branch of the All-India Spinners' association, states the *Hindusthan Standard* of June 9.

The Association employed last year 93 jute spinners and seven weavers, at its Sukanpukur centre in Bogra District, for the purpose of producing jute articles. These craftsmen spun 7,284 lbs. of yarn and produced Rs. 1,838 worth of jute goods in the latter half of 1939, many of these articles finding ready markets in Bombay, Karachi, Jaipur and the Central Provinces.

Sugar in Jute Bags

QUICKER ABSORPTION OF MOISTURE THAN IN ROSELLA BAGS

Sugar in jute bags absorbs moisture more quickly than that in the rosella bags, is the result obtained by the Technological Research Laboratories of the Indian Central Jute Committee after experiments undertaken in response to an enquiry by the Bengal Government regarding the stowing qualities of Rosella and Jute bags for sugar in order to ascertain the moisture-absorbing qualities of each.

According to the Director of the Laboratories small bags were made from Rosella *(Altissima)* cloth and from jute cloth as ordinarily used for sugar bags.

The data are :—

Rosella cloth	...	"A" twill.	21·1 oz. per sq. yd.
Jute Sugar bag cloth	...	"A" twill.	24·6 oz. „ „ „

Each bag contained about 6 lb. sugar.

The bags were placed (in shallow trays) side by side in a conditioning box with an atmosphere which varied between 80% RH & 90% RH. A fan inside the box was operated occasionally for short periods to circulate the air. The positions of the two bags were reversed periodically to ensure equal chances of absorbing moisture.

Weekly weighings of the bags were made (together with the trays) for a period of ten weeks. Throughout, the jute bag increased in weight more rapidly than the rosella bag. After 10 weeks the increase in weight of the jute bag and contents was 3·3% and that of the rosella bag and contents 1·2%.

There is no doubt that the sugar in the jute bag absorbed moisture more quickly than that in the rosella bag.

It was observed that the outside of the jute bag became rather sticky and a fair quantity of syrup was found in the tray. The rosella bag did not become sticky and no trace of syrup accumulated in the tray.

(Continued on Page 162)

DEVELOPMENT OF FIBRE IN JUTE

(For figures referred to below, please see frontispiece).

The initiation of fibre begins at a very early stage in the life history of the jute plant according to the Agricultural Research Laboratory of the Indian Central Jute Committee. The first formed layer is arranged concentrically on the inner side of the cortex. It appears continuous but actually it is separated by thin strips of developing ray cells (Fig. 1). As the plant grows older the cambium activity increases, new tissues are differentiated into thin and thick walled cells, the latter are the fibre cells (Fig. 2). These are in tangential rows and alternate with thin walled cell layers. The ray cells already referred to, develop further and isolate the fibre cells into groups. At this stage of the development the fibre groups are arranged in a characteristic pattern, which looks like a tongue or a pyramid, when seen in a transverse section (Figs. 3 & 4). The maximum output of the fibre layers occurs when the plant is 2 to 3 months old, when 4 to 6 layers of fibre cells are added. This activity gradually decreases as the crop matures and towards harvest time only about two further layers are added. Within a fortnight after harvesting, growth activity slows down considerably soon the collapsing and shrinking of cells take place and finally fibre formation is completely arrested.

(Continued from Page 161)

A further point of interest is that after conditioning for one week in a room with relative humidity of 75% the jute cloth had a regain of 15·2% while the rosella cloth had a regain of 14·5%. It is probable that equilibrium with the air was not reached in one week and that there would be a greater difference in regain if time were given for equilibrium to be reached.

The Laboratories are now taking in hand experiments to find a means of treating jute sugar bag cloth to reduce the hygroscopicity.

SISAL HEMP FIBRE INDUSTRY IN INDIA

DEVELOPMENT ON INDUSTRIAL BASIS

Sisal hemp, which has been a monopoly to Mexico, East Africa, Java, Philippines, etc. offers a great opportunity to India now in view of the new developments regarding the utilisation of the fibre, writes Mr. J. K. Sircar, F.R.H.S., F.R.S.A. (London) in the course of an article on "Sisal Hemp Fibre Industry in India" in the *Amrita Bazar Patrika,* of May 26, 1940. Indeed the War has given a fillip to Mexico, Dutch East Indies, and the Philippine Islands in adding larger areas to their already huge areas existing under this crop. To understand the extent of Sisal production in the World a reference to "Industrial Fibres" issued by the Imperial Economic Committee, England, would convince the most sceptic. Mexico produced 113,000 tons ; Philippine Islands 26,000 tons, Dutch East Indies 86,000 tons, and the total production of Sisal in countries outside the British Empire was 257,000 tons in 1937. The total produce of Sisal in the British Empire, mainly from Tanganyika and Kenya in 1937 was 122,000 tons.

Sisal hemp is derived from Agaves, some of which one sees growing as a hedge plant from one end of India to the other. Not all the Agaves, however, some of which we in India know as Aloe fibre plant which is sometime made use of in the Indian jails for the production of a fibre by the hard and degrading labour of pounding, yield Sisal hemp of commerce.

Mexico produces Sisal from a species of Agaves with marginal prickles botanically known as *Agava furcroyes,* East Africa produces Sisal from a species of smooth-leaved Agaves botanically known as *Agave sisalana* ; while the Philippines and Java produce Sisal from a species of thin leaved Agave with marginal prickles botanically known as *Agave cantala.* It is *Agave cantala* introduced into India by the Portuguese in the fifteenth century which offers one of the most profitable opportunities to India to develop an untapped and unexplored fibre resource now. All these years this plant although so commonly met with in almost all the Indian provinces has been given but scant attention save and except by the jail authorities. The writor, who has devoted 25 years of his life in developing some of the Indian fibre resources, found out the mistake made by the Botanists in India in not recognising the merits of this common enough weed which used to go by the name of Aloe fibre plant. But the discovery was entirely not due to the writer alone. It was Professor Lyster Dewey of the Fibre Investigation Bureau of U.S.A. who first brought the matter to his attention. Recently fibre was extracted from these leaves mechanically and sent to England and it was pronounced to be equal to Java Sisal hemp. Some of the Calcutta Rope Mills who import annually a considerable quantity of Manila hemp and Sisal hemp, the imports in 1938 being as much as Rs. 800,000 worth of these fibres, agreed to take a very considerable quantity of the fibre. Apart from this its uses for the manufacture of several commercial commodities have been found.

The uses of Sisal hemp of Mexican, East African, or Java origin have so long been the manufacture of binder twine, ropes and cordage. The British Admiralty tests sometime back revealed the fact that Sisal is in no way inferior to manila hemp for Marine cordage. Apart from this in recent years Sisal has been used for the manufacture of twines of various description, ropes and cordage, cloth, carpets, and matting. The Indian Sisal from *A. cantala* or Java or Philippines *cantala* or Sisal is, however, a finer fibre than East African or Mexican produce, and recently a process has been evolved for chemically degumming the fibre cheaply and economically which enables the fibre to be divided into finer filaments and in softening it in such a way that the existing jute and flax mills in India and Britain can spin the fibre into finer yarns much in the same way as flax tow and canvas, tarpaulins, motor-car top-cloths, linoleum backings, etc. as also fire and water hose pipes, etc. The fibre being rot-proof and much stronger than jute and Sann hemp offers a great opportunity to its exploitation in Bengal, Bihar, U.P., Bombay, C. P., Madras, Punjab etc.

To develop the industry, however, on industrial basis planting has to be undertaken in suitable soil, rainfall and climatic conditions. Some parts of Bengal particularly Midnapur, Birbhum and Bankura offer very considerable scope. Next the Chotanagpur area of Bihar offers considerable scope. Some parts of Assam. U.P., the Punjab, C.P., Bombay and Madras also offer considerable scope for its systematic cultivation. Once planted the plant comes into bearing in three years' time, and goes on yielding leaves for decortication year after year for a period of 10 to 12 years. The same plantation with judicious replanting keeps going for 30 to 50 years. Land for the purpose can be easily had as it grows in high land which is generally left fallow.

Lest there be a misapprehension in the minds of the readers regarding the necessity of starting plantations on areas ranging from 1,000 to 3,000 acres fitted up with automatic decorticating outfit, it may be pointed out that while the starting of large and well managed plantations where large area of land is available is essential from economic points of view, Mexico developed her Sisal resources or Mauritious developed her Mauritius hemp resources with small plantations consisting of 50 to 200 acres of land equipped with small power equipments locally made. The procedure adopted by the latter countries may well be emulated with advantage by some of the small capitalists, or small co-operative organisations leaving the question of large scale developments to others competent to undertake such operations.

The Fibre-Agaves

ECONOMIC AND CULTURAL CONSIDERATIONS

(Contd.—from the last issue of the Bulletin)

V.—DIFFERENT CULTIVATED AGAVES AND THE CHARACTERISTICS OF THEIR FIBRES

THE literature on Agaves contains many incorrect statements regarding the classification of species, owing to the fact that many botanists have only studied dry herbarium species or green-house cultivated plants. The different species are adapted to certain conditions of soil and climate, and they also vary in size, quality of fibre, length of life and other important economic characteristics. It is therefore well to classify the plants.

The following eleven species are the principal ones, three of them only being at present of commercial value, but the others may become of more importance as a result of the researches on new fibre Agaves being carried out in the Amani (Tanganyika) Experimental Station.

The three most important species of commercial value are :—

(1) *Agave fourcroydes.* Lemaire.

Henequen (pron : Hen-e-ken), Spanish name.
Sacci (pron : ssak-ki), Maya-Indian name.
Botanical synonyms : *A. rigida elongata,*
A. elongata, A. Ixtle, A. rigida longfolia.

Native in Yucatan (Mexico) and cultivated there. It constitutes more than 90 per cent. of the fibre of commerce, The plant is propagated from suckers, bulbils or seed. Suckers are used in practice. It develops a trunk and the leaves thereon are 1 to 2 m. long and always glaucous (grey-blue).

Marginal spines always present, curved with points downward. The flower-stalk is 4 to 8 m. high with rather stout horizontal branches, forming seedpods.

(2) *Agave sisalana.* Perrine.

Sisal (Original Spanish name of port of shipment).

Yaxci (pron : jash-ki), Maya-Indian name.

Botanical synonym : *A. rigida sisalana.*

Native of Central America, not cultivated for fibre in Yucatan. Commercially cultivated in the Bahamas, Turks and Caicos Islands, Hawai, Java, Tanganyika, Kenya and Uganda, Bengal, Indo-China and Congo. It is mostly propagated by suckers. The leaves are dark green or slightly glaucous and 1 to 1·75 m. long. Usually no marginal spines but occasionally small spines pointing downwards. The flower-stalk is 4 to 8 m. high with slender branches projecting upwards. It wil endure a wider range of conditions of growth than Henequen. Seed-pods only on cut poles.

(3) *Agave cantala.* Roxburgh.

Nanas sabrang (Java)

Manila Maguey (Philippines)

Synonyms : *A. Cantula, A. vivipara, A. rigida elongata, A. elongata.*

Was introduced into the Philippines, India and probably Java in early Spanish times and not known in native wild condition in America ; mainly cultivated in Java and the Philippines. The plant is propagated from suckers or bulbils ; seed pods are not reported. The leaves are glaucous and 1·50 to 2 m. long. The marginal spines are hooked or curved pointing upwards. The flowerstalks are 4 to 7 m. high and slender. *Cantala* grows well on loan soil and endures moisture better than either Sisal or Henequen.

The Fibre-Agaves of minor importance are the following species :—

Plant		Fibre	Locality of Production
Agave tequilana Trelease	...	*Tequila*	Jalisco
A. Zapupe ...	...	*Zapupe fina*	Vera Cruz, Tamaulipas
A. Lespinassei Trelease	...	*Zapupe fuerta*	,,
A. Deweyana Trelease	...	*Zapupe larga*	,,
A. Lophanta Schiede (= *Lequilla Torr.*)		*Tula ixtle* (*Tamico*)	Mexico
A. falcata Engelm ...	...	*Guapilla*	
A. striata ...	...	*Espadinin*	
A. cocui Trelease ...	...	*Dispopo*	Venezuela

All Agave fibres are produced by the leaves, the stem is mostly contracted and also if developed does not yield fibres. In the Agave leaves three main zones of fibres can be delimited :—

(*a*) A peripheral zone, composed of one or more rather irregular rows of small fibres. These are of nearly circular cross section.

(*b*) A median line of large fibres. These are horseshoe-shaped in cross-section, containing a conducting strand in the open side of the crescent, and a smaller fibre opposite to the xylem of the strand.

(*d*) Fibres in the ground-tissue of the leaf. These form a series between the fibre-types of zones *a* and *b*.

Agave fibres fall into three types, all fairly well defined :—

(1) "Mechanical" fibres.—These are most strongly developed round the periphery of the leaf, though they also occur scattered through the leaf parenchyma. They vary in length from a few centimetres to almost the length of the leaf. These fibres are of great importance commercially, as, owing to their shape, they seldom divide during the process

of manufacture. The "fineness" of a fibre sample therefore depends, from a commercial standpoint, almost entirely on the fineness of these fibres.

(2) "Ribbon" fibres.—These invariably occur in association with the conducting tissues. They run from base to tip, and if the fibres of a leaf are classified on the basis of length, the longest classes are entirely composed of these fibres. They are also important in that they readily split longitudinally, and in this way form a contrast to the mechanical fibres. The fineness of commercial fibres, therefore, is not dependent upon the original size of these fibres.

(3) "Xylem" fibres.—These fibres are of no commercial value as they are thin-walled, and invariably broken up and lost during the process of decortication of the leaf.

Generally speaking, no important differences exist between Henequen and Sisal fibres, such as do exist between sisal and cantala. Furthermore, these differences are only to be distinguished microscopically and are not always reliable.

The ash of Agave fibres fairly regularly contains prismatic pseudocristals of calcium originating from the oxalate of lime of the Agave leaves. These pseudocristals are changed into needles of sulphate of lime by addition of sulphuric acid. On account of these incrustations of the ash, fibres of Agave may easily be distinguished from the Manila hemp fibres. Its ash contains only stegmata which remain after the treatment of the fibre with chromic acid. The stegmata are amorphous substances of silicium.

Agave-plants require a tropical climate. There are no commercial Agave-plantations outside the tropics. While the plants often survive temperatures of 2 to 15°C. below freezing point, they are sometimes also injured by cold even above freezing point. Henequen plantations have been worked almost under the Tropic of Cancer near Victoria, Tamaulipas, where light frosts occur nearly every winter. The bulbils and tips of the leaves are sometimes injured by the cold weather. But such damage is also reported from East Africa within the area of the tropics, where the sisal is injured by heavy fogs during the early morning.

The average annual rainfall in the henequen-growing areas of Yucatan is about 30 inches (750 mm.), and the lowest recorded temperature is 10°C., but it is usually very dry in winter. The climate is arid, with an abundance of bright sunshine. In Java, sisal grows in well drained soils with an average annual rainfall of more than 100 inches (2,500 mm.),

Rains and fogs interfere with the drying of the fibre.

VI.—PRODUCING COUNTRIES OF HARD FIBRES AND THEIR METHODS OF CULTIVATION

East Africa—

East Africa has become a most important producer of hard fibre so that it now stands level with the Philippines. Tanganyika Territory contributes the biggest share of sisal fibres to the East African output, its export of this commodity indeed considerably exceeding that of such other products as coffee, cotton and gold. The percentage of sisal exports by value in relation to the total exports of Tanganyika was as follows:—

1933	34·7%
1934	32·0%
1935	32·9%
1936	41·5%
1937	41·8%

The value of the next most important products exported, such as cotton, coffee and gold amounted in 1937 only to 12·1, 10·6 and 8·6 per cent. respectively.

The principal export harbours from Tanganyika Territory are Tanga and Dar-es-Salam, which together take more than 70 per cent. The export harbour for Kenya is Mombasa.

The past year has proved most disappointing to sisal producers, quotations moving for the most part within narrow margins resulting in an average price of about £17. 5s. for No. 1 grade. This figure is quite unremunerative to planters, giving them little encouragement to develop their estates any further. Hopes were raised of substantial sales of fibre resulting from the record sowings of wheat and reports of favourable weather prospects for grain crops throughout the world. Therefore, some disappointment was caused when binder twine prices for the season were fixed in America at one half cent per lb. below those of the previous year. During April the larger-scale buying on the part of continental consumers caused a sharp upward movement, but this eventually slowed down owing to the fact that American spinners continued a cautious buying policy. One favourable feature is that most of the estates are well sold in advance, while stocks are low both in Africa and in Europe. The production of Africa has exceeded expectations, exports from Tanganyika again showing an increase of about 10,000 tons over last year, whilst the Kenya production is approximately the same as in 1937. Meanwhile, under the influence of constantly low prices, much work that is necessary to keep estates in good order is being postponed, pending a return to a profitable price level.

Adversity has prompted the African sisal industry to introduce measures aiming at closer co-operation between Africa and London, as a result of which the sisal Growers' Association has been constituted in London to represent the Growers' Associations of Tanganyika and Kenya and to look after sisal interests generally. Further measures are in contemplation which, it is hoped, will eventually bring stability to the trade with a view to maintaining such conditions as will yield a fair return to producers.

Working in conjunction with this movement the Merchants' and Brokers' Section has been reorganised under the aegis of the London Chamber of Commerce, this section dealing with matters concerning quality, grading, packing, claims and contract conditions.

An unexpected step has recently been taken by the Tanganyika Government in promoting a bill entitled "The Sisal Industry Ordinance", the object of which is to provide for the registration of Sisal plantation and estate marks, to supervise the grading and packing of Sisal, and to take other measures for the promotion and protection of the industry.

Sisal tow values have kept fairly steady and the production has found a steady market, a large proportion being used for bag manufacture and also for bedding and upholstery purposes.

In East Africa two large centres of Sisal planting exist : Tanganyika and Kenya. The former extends mostly in the triangle between Tanga, Pangani and Korogwe, in the hot lowlands near sea level ; the latter has its greatest concentration within fifty miles towards the north and east of Nairobi, at an altitude of some 1,500 to 2,000 metres above sea level. Here Sisal is planted in areas with an average rainfall of 600 to 700 mm. The highlands enjoy a cool climate during most months of the year, whereas the climate of the coastal belt of Tanganyika where most of the Sisal of that territory is grown, is hot. The rainfall varies from 1,000 to 1,500 mm. yearly, in both centres fairly well distributed over the whole year, the main rains falling during April and May, the short ones during November.

In consequence of the cool climate the growth of Sisal in Kenya is prolonged in comparison with Tanganyika to nine years, and cutting cannot begin until the fourth year from planting, or a year later than in the warmer regions of Tranganyika.

In Kenya the soils are mostly red' earths, laterized, or black or grey clay, whilst in Tanganyika sands overlying coral limestone prevail.

In Kenya the initial clearing of land for Sisal plantations is fairly easy on account of the original bush being sparse. The cost of bringing new areas into bearing in the fourth year of growth with the aid of diesel-engined tractors is between 150 and 180 sh. per hectare, while the replanting of old areas is about 30sh. cheaper. Methods in Kenya must of necessity be more thorough, and their results show that Sisal responds to superior cultivation. In the coastal plains of Tanganyika, where moisture is plentiful, weed control is the main problem.

Local conditions have determined the nature of planting methods in both instances. The cultivation of land for Sisal in Kenya is facilitated by using diesel-tractors, and elaborate though this method may seem, and longer though it takes to reach the cutting stage, it is no more costly than the primitive methods used for starting a Sisal plantation in Tanganyika by hand labour only.

In Tanganyika spacing is largely determined by the simple relationship between density of plants and yields. The number of plants is seldom below 4,000 per hectare and is commonly 5,000 or more, which is possible under a heavier rainfall. In Kenya the question of spacing is more involved, generally 2,250 to 3,360 plants per hectare being planted. However, these spacings have since been thought too generous, and the trend is now towards closer spacing in the row and wider distances between the rows.

In Kenya fibre yields are usually reckoned in long tons per acre per cycle instead of per hectare per annum as in

Tanganyika. Five or six cuts are made per cycle, giving an average of 228 leaves from each plant during its life and yielding a total of about three long tons of fibre per acre. This is equivalent to nearly 1,500 kilogrammes per hectare per annum, which falls short by about half a ton, or occasionally much more, of yields obtained from newly planted areas in Tanganyika, which, however, may decline to the Kenya figure after regeneration by sucker selection. It is interesting that Kenya yields should compare so well, and they do so largely because Kenya leaves are of superior length and weight. Results show that short, spare leaf spells a rise in production costs.

It is indeed difficult to obtain reliable figures for yields per hectare of bearing area. Statistics are generally based on the weight per leaf, and all writers agree that the dry fibre content of the leaves is between 3 and 4 per cent.

Also as regards the cost price of the big plantations, very few reliable figures are available. Therefore it is of especial interest to find some returns in the "Times" (London) of July 28, 1936 given by Messrs. Sisal Estates Ltd. in their prospectus of that date. The Manager estimates that the long ton is produced at the following cost price :—

	£	*s.*	*d.*
c. i. f. (London) costs, incl. selling expenses	10	17	6
Provision for amortisation of growing crops	2	0	0
Provision for depreciation of plant and machinery	1	0	0
Provision for contingencies ...	0	7	6
London office expenses	0	10	0
Total cost ...	15	5	0

This may be the pivot price above which the profits begin, as is also seen from other sources.

Pests and plagues are not very often reported from East Africa. In the Tanga province (Tanganyika) only a weevil *Scyphophorus acupunctatus Gyll.* does much damage. It appears to have been introduced together with its host plant from its original home in Central America. It attacks young plants, weak plants and plants which have flowered. Its main breeding ground is the plant base subsequent to inflorescene (poling).

Furthermore, it is reported that Sisal suffers from lack of potassium in different regions of East Africa. This point is discussed also in the section regarding the Dutch East Indies.

Dutch East Indies.

In this territory the production of hard fibres is not as important a part of the total output of agricultural products as in East Africa. In 1937, for example, the value of exported fibres amounted only to hfl. 14,897,255 (£1,655,250) or 2. 3 per cent. out of a total export of agricultural products valued at hfl. 660,000,000 (£73,000,000).

The official statistics of area planted and production per province are incomplete, owing to the fact that big concerns particularly the Handels Vereeinging, Amsterdam, do not publish figures concerning yields and areas.

In Java there are eleven estates, all in the Surakarta Government which produce Cantala fibre only. In 1937 the area amounted to 6,374 hectares of which 4,816 hectares were in production. The total yield of Cantala was 4,588 metric tons of dry fibres. Quality has shown a high standard, being better than the "Maguey" of the Philippines. Although it has been possible to reduce working costs by exercising the utmost economy, it cannot be regarded as a profitable industry with the prices prevailing in 1938.

The Cantala market is a very restricted one, the demand being much smaller than that for Sisal fibre. Also, the Cantala plant is much more liable than Sisal to certain diseases which result in a reddened fibre. On account of its spiny nature it is also slightly more expensive to harvest, and therefore on big estates its growth has been more or less abandoned.

The methods of cultivation on one of the biggest estates of Java are the following. The suckers, or bulbils, or both, as their case may be, are planted in nursery beds, where they remain one year. They are then transplanted to the fields. The fields are divided into blocks, 12 metres (39⅜ feet) wide and of the length of the field. Each block is bounded on either side by a drain about 50 centimetres in width and 60 centimetres deep, these drains leading to a main drain running along the side of each field. The plants from the nursery beds are set out in rows according to either of the methods illustrated in the diagram on the next page.

Harvesting of the ripe leaves commences when the plantation is about fourteen months old, and continues for about seven years. Two crops of leaves are obtained each year, the yield being 3 to 5 tons of fibre per hectare per annum.

Each year potassic ond phosphatic fertilizers are applied at the rate of about 150 kilogrammes of potash (K_2O) and 100 kilogrames of phosphate (P_2O_5) per hectare for sisal, and the same amount of phosphate and half the amount of potash for Cantala, which is found to possess about half the potash requirements of Sisal. Of course, the quantity of each fertilizer applied must vary according to the type of soil in which the plants are growing.

After cutting the leaves are graded in the field according to length.

Leaves above one metre in length are placed in grade A. Leaves between 75 centimetres and one metre are placed in grade B.

Leaves of between 50 and 75 centimetres are placed in grade C.

Broken and diseased leaves are graded X, Y and Z instead of A, B and C according to length, those above 1 metre in length being placed in grade X, those between 75 centimetres and I metre in grade Y, and those between 50 and 75 centimetres in grade Z.

The Anglo-Dutch Plantations Co., Ltd. of Java reports that their fibre is produced at a cost of about £10. 15sh. per ton loaded on the ship. This includes field, factory and transportation costs, to which must be added depreciation and overhead costs. The factory costs are about £2. 10sh. per ton so that field and transportation costs must approximately amount to £8. 5sh. per ton. The total cost of production will be nearly the same as in East Africa.

In the lowlands of Java on soils previously used for rice planting, a decided lack of potassium prevails, which gives rise to a peculiar under-development. This lack can be made good by planting green manure-plants, especially the deep rooting *Tephrosia Candida*, which is worked under. But this does not work satisfactorily in the long run. Therefore, it is absolutely indispensable to give an adequate treatment with potassium, in order to avoid the typical appearances of disease caused by lack of potassium, and known also in other countries.

It can be seen from experience that in Java the cultivation of Agaves does not pay on estates where cheap transportation of the leaves is not possible. It is also not profitable on estates where, owing to poor soils or cool climate, the production is less than 3,000 kilogrammes of dry fibre per hectare. It may be profitable on soils with little humus where humus-requiring plants, such as coffee, are not growing, providing these soils are naturally well drained and not more than 400 metres above sea level.

The cultivation of Agaves is most profitable in conjunction with the cultivation of other crops. Then it is not necessary to depend on Agaves alone or to cut more leaves than may be suitable for the best development of the plants in times of low prices. Estates suitable for a large central factory, permitting easy transport of leaves by rail from all parts of the plantation are preferable. It is not profitable to run estates of an area less than 500 hectares owing to the costly plant needed for the extraction of the fibres.

Mexico

From the Henequen industry of Mexico only meagre information is available, so that it is difficult to judge the situation. Official reports concerning prices, output, shipments, stocks and sales effected are withheld, but from unofficial quarters it appears that the receipts in Progreso coincide very closely with shipments. Whether and to what extents stocks are accumulating inland is not apparent. A bulk sale of 150,000 bales was reported in March, 1938, and as shipments go on, it is obvious that large-scale purchases must have been concluded on terms which have not been published. Shipments to U. S. A. ports account for about four-fifths of the quantity exported.

Conferences were held during the past year between the Henequen producers and the American twine spinners with the object of solving common problems ; but as no further news has been received, one can merely assume that no general solution was found.

The Henequen industry appears to have had a fate similar to that of the oil industry of Mexico by coming under Governmental control, the Sisal estates having been taken over and sub-divided amongst the workers. The outcome of this important change may not be apparant for some time. Meanwhile the industry continues to be administered by the *Co-operativa de Henequenoros de Yucatan* under the new decrees.

On the method of cultivation of Henequen in Mexico, only very few reliable reports are available. Dewey some seven years ago gave the following details :—

The Henequen plant is regarded as native in the Yucatan Peninsula, but is not known in a wild condition except as an escape from cultivation. The plantations in Yucatan are all within the tropics and in areas entirely free from frost. The average rainfall in the Henequen growing areas of Yucatan is about 750 mm. and the lowest recorded temperature is 10°C. Henequen endures drought better than Sisal, but in a protracted drought its leaves also become leathery, making it very difficult to clean the fibre.

Henequen requires a soil with good natural drainage. The plantations in Yucatan are mostly on porous lime rock, through which water from rains quickly sinks to the underground river. There are no streams or natural ponds on the surface in northern Yucatan.

Henequen grows best in the full sunlight. It is necessary therefore, to cut all trees and bushes. The bush and herbaceous weeds and grass are all burnt, and the land is cleared as thoroughly as possible. Ploughing is practised where possible, but most Henequen plantations are on land too rocky for ploughing and regular cultivation. It is usually necessary to clear the land two or four times each year until the first harvest of leaves, or even oftener in regions of greater rainfall. Afterwards the land is cleared at the time of each harvest.

Particular attention is given to the size of the planted area and the number of plants thereon, for this is the basis of all field labour and estimates of production. Generally 2,400 plants per hectare are planted and suckers are used for planting. The roots and outer leaves are trimmed off. Small holes are dug, often with a pick, in rocky lands, and the bulb is set and partly covered with earth. In rocky land it is often necessary to prop up the suckers with small stones. After planting, the field is inspected at frequent intervals, and suckers that have fallen over are straightened up and those that fail to grow are replaced.

In Yucatan the first leaves are cut in the sixth or seventh year, and afterwards usually two crops per year are cut for periods varying from ten to twenty years, or until many of the plants cease to put forward good leaves.

The leaves are cut one at a time with an ordinary butcher's knife. The terminal spine and marginal prickles are trimmed off and the leaves are tied in bundles, 40 or 50 per bundle. One man, with two assistants to trim off prickles, count, and tie the leaves in bundles and carry them to the roadway may cut 3,000 to 4,000 leaves per day.—*Monthly Bulletin of Agricultural Economics and Sociology, International Institute of Agriculture.*

(To be continued)

Jute World Gleanings

We are indebted to the *Jute Review*, London, for the following, extracted from the April issue:—

CANADA

Jute fabrics worth $236,000 were imported into Canada during January. The value of the arrivals was 60% higher than a year before.

MALAYA

Imports of jute piece goods into the Federated Malaya States amounted to 5,914,700 sq. yds. in the eleven months ended November, 1939, and was about 25% smaller than a year before, Imports of gunny bags, on the other hand, was 10% above previous years level and amounted to four million bags.

JAPAN

Japan received about 10% less jute during the eleven months ended November, 1939, than she imported the year before. Imports amounted to 26,639,200 kin.

A drastic cut is noticeable in the jute cloth imports which amounted to 33,629,600 kin and were 55% smaller than a year before. (1 kin=1·32 lb.)

EGYPT

A sharp fall in sack imports into Egypt was noticeable last year. The following table gives details of imports:—

Jute Sack:	1939	1938
For cotton, kg. ...	3,206,945 ...	9,072,816
For sugar, kg. ...	463,610 ...	645,353
For seeds, kg. ...	5,990,854 ...	8,687,217
For onions, kg. ...	1,337,431 ...	1,310,925
For spec., kg. ...	3,719,826 ...	4,069,467
Reinforced with paper, kg. ...	392,120 ...	354,242

December arrivals were on the whole far below last year level.

MAURITIUS

The export of second-hand guuny bags from Mauritius has been prohibited except under licence.

SWITZERLAND

The Swiss Government has assumed control of the prices for jute cloth and sacks early in the war and has amended the regulations early this year. Sellers of jute cloth are bound to charge a basic price of fr. 2.35 per kilo of cloth, this price may be increased for sales under 500 kg. up to 10 centimes per kg. and decreased for quantities over 2,000 kg. For the manufacture of sacks the pre-war charges may be increased up to 20%

HUNGARY

The war caused a severe curtailment of jute supplies to the Hungarian industry. During the period September, 1938 to February, 1940 only 15,400 q. of raw jute arrived in Hungary, that is 58% less than Hungary's pre-war imports.

The difficult position is revealed in an announcement too, which rules that caster sugar can only be delivered in sacks if the customer can put standard used sugar sacks at the disposal of the selling firm.

CHILE

The Government of Chile has taken steps to control the export of "canamo," a native fibre used as substitute for jute in the manufacture of sacking and twine. "Canamo" is only available in restricted quantities and the principal sack factory has still to rely on raw jute.

HEMP CROP

SITUATION IN DIFFERENT COUNTRIES

The April number of the *Monthly Crop Report and Agricultural Statistics*, of the International Institute of Agriculture, Rome, has the following information regarding hemp :—

YUGOSLAVIA

The favourable situation of hemp fibre on the world market has encouraged growers to devote a larger attention to this crop and to increase the area. In fact, according to recent unofficial reports, this year's hemp acreage will be much larger than last year's.

U. S. S. R.

According to the Plan the total area destined for hemp cultivation in the South and North of the Union is 1,530,000 acres, against 1,350,000 acres in 1939 and an average of 1,490,000 in the preceding five years ; percentages 113·1 and 103·2.

Preparations for the coming season are making rather slow progress. Up to the middle of March the quantity of seed distributed represented only 52 per cent. of the total forecast by the Plan. It is affirmed, however, that the quantity necessary for sowing the area forecast by the Plan is available. It is only necessary to organize a more rapid distribution in areas which require it.

ARGENTINA

Hemp crops were in normal condition at the middle of March and promised a better production of fibre than last year's, especially from the standpoint of quality.

U. S. A.

IMPORT OF RAW JUTE AND JUTE GOODS

IMPORT of raw jute and jute goods into U. S. A. according to statistics compiled by the U. S. Department of Commerce are given in the following table :—

Product.	Unit.	Countries.	February 1940	January 1940	February 1939
Raw Jute ...	Ton	British India ...	12,306	8,228	2,667
		Others ...	...	...	2
		Total ...	12,306	8,228	2,669
Jute Butts ...	”	British India ...	153	67	22
Burlaps ...	lbs.	British India ...	33,668,084	62,614,511	16,099,365
		United Kingdom	1,072,669	1,837,939	2,507,236
		Italy ...	...	...	1,044,430
		Nether lands ...	...	...	115,068
		Argentine ...	94,359	...	...
		Belgium ...	76,469	80,482	422,192
		Germany ...	53,818	30,298	642,025
		Mexico	39,932	...	...
		Czechoslovakia	...	...	563,180
		Hungary ...	...	...	83,177
		Canada ...	...	...	34,688
		Total ...	35,005,331	64,563,230	21,511,361
Jute Bags or Sacks.	”	British India ...	5,735,981	3,224,940	1,035,058
		United Kingdom	436,348	3,810	...
		Canada ...	2,443	7,689	9,377
		Sweden ...	...	8,979	...
		China ...	...	2,000	...
		Argentine ...	1,161	...	...
		Norway ...	305	105	138
		Ceylon ...	146	...	...
		Total ...	6,176,384	3,247,523	1,044,573

HESSIAN STOCK AND CONSUMPTION

Hessian stock and consumption figures of the United States of America excluding the Pacific Coast business, as reported by the Indian Jute Mills Association, are given below, the figures being in millions of yds. :—

	February		March		April	
	1940	1939	1940	1939	1940	1939
Stock	213	304	210	283	232	279
Consumption	52	53	50	66	44	54

NEW YORK PRICES

The *Daily Mill Stock Reporter* quotes the following prices of Raw Jute and Jute Goods prevalent in the New York Market, all the prices being nominal :—

Date	Raw jute (native Firsts) Cents per lb.	Burlap (Hessians) Cents per yd.		Old Bags Cents per bag	
		8 oz. × 40s.	10 oz. × 40s.	100 lb. sugars	140 lb. starch
1st April, 1940 ...	8·15	5·55	6·75	4·63	6·13
8th „ 1940 ...	8·25	5·70	6·85	3·38	6·13
17th „ 1940 ...	8·25	6·00	7·35	3·38	6·13

AMERICAN INTEREST IN INDIAN PRODUCTS

STIMULUS PROVIDED BY WAR

America's growing interest in Indian products is reflected in a long list of trade enquiries dealt with by the Indian Government Trade Commissioner in New York during the last quarter of 1939, states a Central Government Press-Note of May 22.

Many of the enquiries coming from American importers were the result of the war, and concerned the possibility of substituting India for other sources of supplies of certain commodities.

(Continued on Page 192)

Conditions Affecting Jute in Argentine

NO CARGOES FROM INDIA IN APRIL

THE following is the full text of Mr. W. J. Jackman's monthly report, No. 29, dated May 8th, on conditions affecting the Jute Industry in the Argentine Republic :—

General Situation

The total volume of Argentine foreign trade for the first three months of the year was $ 932,281,000 pesos, as against $ 705,433,000 pesos in the corresponding period of last year, an increase of $ 226,848,000 or 32·2 per cent. Imports, totalling $ 425,503,000 pesos, were 33·3% higher than last year ; and exports, $ 506,778,000, were higher by 31·2%.

The increase in the value of imports is largely due to the rise in prices which has taken place during the last few months, and of course the same is true of exported goods.

Economists are of the opinion that the Republic, thanks to a more mature internal economy, is succeeding much better than was the case in the early months of the 1914-18 war. But the future course of events is just as difficult to foresee here as in other neutral countries.

Importers are still complaining of the difficulty of selling their goods ; but generally speaking business as yet has not suffered very greatly through war conditions.

Exports of grains and seeds during April were about normal, and they are expected to continue at a satisfactory rate through the next two months, after which there may be a decline through exhaustion of stocks.

Two days ago the National Government invited subscriptions for a new loan, bearing 4½% interest. $ 75,000,000 pesos were offered. Within a few hours of the lists being opened applications had been received for $ 188,490,600 pesos. As official authorisation had been given for a total issue of $ 150,000,000, of which the $ 75,000,000 was intended as a tentative offering, it was decided to accept applications for the full 150 millions.

Money is evidently very plentiful, and it is equally certain that the national credit stands high. But had times been more normal it is likely that money which is now being invested in securities would have been used in the expansion of private business or industries.

The Central Bank having discovered that importers were buying foreign currency, especially pounds sterling, at lower rates than those fixed by the Bank, has now modified its regulations so as to compel importers to pay about $17·70 pesos per £1 for permits. But the rate for exporters' bills has not been changed, remaining at $13·50 telegraphic for the U.K. and $11·80 for payment of sterling on the Continent.

Brazil Coffee

In 1940-41 the coffee crop of Brazil is likely to be well in excess of probable market requirements, according to advice received from that country by the Bank of London and South America. It should be noted in this connection that the European war has cut off markets formerly absorbing from 3,000,000 to 4,000,000 bags of the country's total annual export of about 15,000,000 bags.

In the free market the dollar closed the month of April at $434 pesos per $100 dollars. The pound in the free market closed the month at $15·31 pesos.

Crop News

Maize : The first official estimate of the volume of the new crop is 11,028,000 metric tons, the second heaviest crop in the records. Picking is proceeding apace, but, in response to official encouragement and with financial assistance offered by the National Bank, the growers are not hastening with the process of shelling, but are holding the corn on the cob in field cribs until marketing prospects are better.

Cotton: The second official calculation of the crop gives a total of 79,200 tons, a slight reduction from the first estimate of 80,400 tons.

Rice : The first official estimate of the Rice crop forecasts a production of 110,500 tons, which is greater by 9,568 tons than that of last season, and is 59,484 tons above the five-year average.

Sunflower: This crop has rapidly gained in favour with the Argentine farmers for its oil-bearing seeds. The yield this season is officially calculated as 403,100 metric tons. This is a high figure in comparison with the five-year average of only 145,735 tons.

Peanuts : A crop of 87,200 tons is forecast by the Ministry of Agriculture. This nearly doubles last year's figure.

Wool stocks on April 1st totalled 58,418 tons, which compares with 57,294 tons a month earlier. The second clip has been about completed, and the yield is said to be very good. There is little activity in the market, and trade is slow, with prices declining.

The Jute Trade

Activity in the building industry continues on a more or less normal basis, with new apartment and office blocks constantly going up.

The meat packing plants have had a temporary set-back through the inundation of their premises during recent floods of unusual severity; but it is understood that they have a normal volume of orders to fill.

The bag factories are meeting a heavy demand for bags for the new maize crop now being picked, as well as for bags for the oil seed crops.

Jute Prices

There are no changes in the current prices for jute, manufactured goods, which remain as set out in detail in my report of a month ago.

Importations

No cargoes arrived from India during April. The small importations from other sources were as shown below:—

From U. K.	*From Belgium*	*From Brazil*
26 bales of Canvas	88 bales of Fabrics	252 bales of Cloth
205 ,, ,, Fabrics	27 ,, ,, Matting	18 ,, Fabrics
	57 ,, ,, Articles	35 ,, Thread
		11 ,, Canvas

Below will be found statistics of the importation of jute and jute goods into the Republic during the year 1939, as supplied by the Director-General of National Statistics. I have added the figures of the preceding year for purposes of comparison.

Argentine Importations in 1939

Raw Jute	*1939* Kilos	*1938* Kilos
India	12,726,469	9,296,493
Dutch East Indies ...	20,725	...
Paraguay ...	145	...
	12,747,339	9,296,493

	1939 Kilos	1938 Kilos
Canvas or Sacking :		
India	65,378,580	88,891,637
U. K.	186,110	383,808
Belgium	982,373	1,091,760
Chile	1,400	1,800
Czechoslovakia	653,534	668,190
France	...	270
Germany	88,658	...
Hungary	27,852	25,203
Italy	385,979	3,749,514
Brazil	59,379	...
	67,763,865	94,812,182
Yarn for Weaving :		
U. K.	4,178	47,280
Belgium	135,136	134,355
	139,314	181,635
Yarn for Plaiting :		
India	992,409	1,261,254
U. K.	4,018	24,915
Belgium	19,285	50,767
	1,015,712	1,336,936
Bags :		
India	2,108,413	1,193,273
U. K.	38,468	395,162
Belgium	289,323	49,771
U. S.	1,061	6,741
Uruguay	750,920	395,035
	3,188,185	2,039,982

Uruguayan Importations in 1939

The data furnished by the Bureau of Statistics of Uruguay are as reproduced below :—

Raw Jute :	*1939* Kilos	*1938* Kilos
India	860,870	594,254
Canvas :		
India	261,940	334,540
U. K.	19,607	33,811
Argentina	100,066	165,848
Belgium	265,062	170,264
Czechoslovakia	128,020	197,192
Germany	254,191	28,540
Italy	575,552	384,155
Mexico	...	40,970
U. S.	...	10
	1,604,438	1,355,330
Sacking :		
India	2,341,030	1,565,081
India (sic)	437,854	...
U. K.	286,023	97,578
Argentina	40,539	...
Belgium	242,767	25,948
Bohemia-Moravia	6,614	...
Czechoslovakia	159,912	464.359
Germany	152,250	450,553
Italy	772,168	1,899,435
	4,439,157	4,502,954
Yarn for Weaving :		
U. K.	16,416	7,115
Belgium	3,010	1,013
	19,426	8,128

(Continued from Page 186)

The enquiries related not only to raw materials, but to finished goods such as carpets, brassware, rugs, whips, saddles, horse-blankets, sporting requisites, textiles, palm-leaf matting, bamboo ladders, and precious stones.

A number of importing firms were put into touch with Indian suppliers of such raw materials as jute and burlap and bristles and fibres.

Position of Dundee

AN OPTIMISTIC OUTLOOK

CAPITAL'S Correspondent dealing with the foreign jute markets, writing from "Somewhere-in-England", under date May 22, states :—

The position is such, that anything may happen and there may be a flare-up in demand for jute goods of a magnitude that will keep all producers fully employed. Now that the nature of the war has changed so greatly, it seems to be beyond doubt that jute goods of all descriptions will be required. Sackings and tarpaulins are in good request, and for these manufacturers are able to maintain their prices, but, though some orders have recently been placed with Dundee manufacturers for ordinary hessians, the improvement has not been of sufficient extent to create any material change in the position of Dundee, which is, at the moment, very dull, with short time increasing. A number of works are now running only three days per week. There are, however, optimistic views being expressed that the whole situation may change over-night, with the mills and factories receiving so much business that they would require to work overtime to cope with it. For the first four months of this year, the imports of gunnies into Dundee alone were 27,000 bales compared with only 15,000 bales for the same period of last year. No figures are now available giving the total imports into the United Kingdon, as was the case in peace times, but no doubt the total will now be exceeding the 200 million yards per annum of cloth received prior to the war, in addition to big quantities of heavy goods.

Consumers are naturally unwilling to pay the prices quoted for Dundee goods while there are available supplies of Calcutta's. The latter are quoted at 40s. 0d. for 10 oz. 40 ins. and at 34s. 0d. for 8 oz. on the spot, or say 4·80d. and 4·08d.

per yard, compared with 5.31d. and 4.38d. respectively for Dundee goods. In the widths 54 to 72 inch, however, the prices for Calcutta goods are dearer than those for Dundee's on the spot, but shipment rates are cheaper. With the use of more shipping available to the British Government at the rates of the Conference Lines through the invasion of Belgium and Holland, there is less risk of buyers being asked to pay a freight of £10 per ton, as has been suggested recently. This may bring out more business from buyers of Calcutta goods who have been holding off in the fear that they may be called upon to pay extra charges. The French Government has placed orders for two million yards of hessian cloth of various widths and weights for delivery June and July, but only three firms have been asked to supply this quantity.

The occupation of a portion of Belgium and the danger to the flax crops of Northern France is affecting the flax industry, which will perhaps only be able to use home-grown raw material. The British Government requires every yard of cloth (linen and canvas) that can be produced now and those jute manufacturers who make a union cloth of flax and jute are hampered by the lack of linen yarns. One would imagine that a make-shift might be made by using the smaller sizes of jute yarns instead of flax, but from inquiries I have made as to the possibility of jute goods taking the place of linen or flax canvas goods, there seems to be little hope of jute supplanting flax in this direction.

At the present rate of consumption of raw jute, Dundee seems to be fairly well provided for in the way of raw material this season. Including the quantity afloat between Calcutta and Dundee, the supply in view of 920,000 bales, compared with 965,000 bales at this time last season. Dull trade is putting Dundee's consumption of fibre back to some extent, while spinners, specially those who are working with a night-shift, are still complaining of the lack of workers. With the extension of the calling-up age for the fighting forces, the position is likely to become worse in the near future though exemptions are being given now to workers over 23.

Spinners are, on the whole, still fairly well engaged, but it is manufacturers who are feeling the pinch most. Common 8℔ cops are now freely obtainable at 4s. 9d. and 8 ℔ spools might be bought at the same price, though there is little doing to test these rates. Twist is steady at from 8⅛d. for 3 ply 8℔, which gives spinners 1d. for twisting, while sacking yarns are in better demand and a trifle steadier at 6½d. for 24℔ weft and 8d. for 8℔ chains. Rove is reduced to £44 for 48 ℔ and £34 for 200 ℔, with little demand meantime, while carpet yarns are in some demand at 7⅞d. for 14℔ warp.

SANDBAG ORDERS AND AFTER

REACTION IN DUNDEE

According to the April number of the London *Jute Review* the termination of Govt. Sandbag Orders on April 11th had an adverse influence on the employment of the jute industry. It has been said that in some mills short time has already been introduced. This short time is taking the form of Saturdays off and in other cases Saturdays and Mondays off.

It is natural that under the present conditions there should be a falling off in home trade, but other orders will crop up to take the place of those things that were in demand before war was declared. We have, for instance, information that there will be quite a good demand for bags of all types to accommodate the increased crops of the farmers, flour bags will be needed and there is some indication that large quantities of camouflage hessian will be required and these are but three of the numerous articles that will be ordered by the Government and private firms in the near future.

There seems to be little justification in the gloomy view of the industry's future. Opportunity is knocking at the door of enterprise and it is up to Dundee to take full advantage of present possibilities by opening the door to its fullest extent.

The export trade may not be too bright. It will not, however, take very long to recoup losses in the export field. Jute will be allowed to play its full part in the export campaign which is at present being organised by the Government in conjunction with all trades and industries in this country. It is up to the jute industry, however, to see that their side of this export campaign is fully organised. We have not at the time of writing, heard of any organisation formed within the Industry to look into the export possibilities of this product. Such export groups have been formed in every other section of the textile industry. No time should be lost in the formation of such a group.

Manufacturers must look at the industry as a whole and although the word co-operation might seem worn out, too many members of the industry seem to think that it is detrimental to their particular welfare.

Any action taken by the industry in this direction should be widely publicised in order to give all members and all branches of the trade the fullest opportunity to add their bit in the way of co-operation.

DUNDEE PRICES

According to the telegrams received by the *Statesman* on London Commodity Markets, the prices of raw jute in Dundee were as follows :—

——	10th May 1940.	17th May 1940.	25th May 1940.	3rd June 1940.	10th June 1940.
Firsts (£ per ton) ...	47	54½	49½	44	44
Lightnings (£ per ton) ...	43½	47¾	44½	40	40

JUTE GOODS FOR FRANCE

NO EXCHANGE CERTIFICATE NECESSARY

The *Jute Review* of April reveals that the import of the following goods from Great Britain, India, Egypt, Iraq and the British Colonies into France need only import licences but no exchange certificate is required in future :—

Single, unbleached jute yarns.
Twisted unbleached jute yarns.
Pure unbleached jute tissues.
Unbleached tissues of mixed jute.
New empty jute sacks.

BELGIAN JUTE INDUSTRY

CONDITION DURING AND AFTER OUTBREAK OF WAR

The outbreak of war saw the Belgium jute industry in a rather difficult position, states the London *Jute Review* of April.

The stocks of raw jute were estimated at 7,000 tons at most and urgent home defence needs had to be met first, out of the supplies available. During the first three months of war only small quantities of jute arrived in Belgium. December showed already a marked improvement ; 3,800 tons arrived during that month, being only 1,200 tons smaller than the pre-war monthly average imports. January brought further progress when almost 7,600 tons of raw jute arrived. Spinners could fill up their depleted stocks and are said to hold larger quantities of jute than they had at their disposal in September.

The improved supply position made it possible to allow the export of certain jute goods which had been forbidden after the outbreak of war. Belgian exporters found, however, that other neutral competitors had meanwhile increased their drive for increased sales of jute goods in foreign markets. Belgian manufacturers met especially with increased Italian competition which proved successful in Switzerland, South America and the Near Eastern markets.

Imports of raw jute into Belgium amounted to 35,293 tons during the eleven months ended November, 1939, that is 15% more than during the previous year. Exports of raw jute came to a standstill after the outbreak of war.

Sales of jute yarns and cloth abroad had to be stopped during the first few months of the war owing to the difficulties in securing the home demand. The available figures for the eleven months ended November, 1939, show, therefore, almost no change compared with the export figures for the pre-war months of 1939.

POSITION IN HOLLAND

A considerable improvement in jute supplies was noticeable in February, when 1,721 tons arrived in Holland. That is more than three times the quantity imported during February, 1939, and makes up, to a certain extent, for the deficit in the previous months. During the first two months of this year Holland received more than 50% in excess of the quantity she imported a year before.

Arrivals of jute yarns, too, were larger in February than a year before, amounting to 832 tons as against 801 tons last year. More than 80% were supplied by Belgian spinners and the rest by British spinners.

Sack imports showed a marked recovery. No less than 1,133 tons of new sacks arrived in February while last year's imports amounted to only 352 tons. British India supplied 981 and Belgium 112 tons.

AUSTRALIAN WHEAT

STEPS FOR CONTROL AND SUPPLY OF CORNSACKS

According to a Press Statement of the Australian Wheat Board, released on April 22, the Board in co-operation with the Jute Advisory Committee is preparing plans for the control and supply of all sacks new and second-hand, required in connection with the marketing of next season's crop. It is proposed that prices of all sacks purchased by the Board will be averaged and distributed through existing channels.

A complete statement setting out plans for sales and distribution will be published shortly. In the meantime it is suggested that wheat growers refrain from entering into commitments regarding any sacks.

Another Press Statement in the same connection issued later (May 20) by the Australian Wheat Board informs that the latter had intended supplying cornsacks to growers, but this is now in the hands of the Jute Advisory Committee, which it is understood, will supply them to growers at an average price, the Board arranging for an advance in February, 1941, from which payment may be deducted. Distribution will be through the usual channels, and growers are now advised te place their orders accordingly.

An inspection disclosed that the use of second-hand bags had caused the collapse of some wheat stacks, and even when this had not occurred, re-bagging had been increased considerably. The Board had decided that wheat of the 1940-41 season would only be accepted in new cornsacks, but bags from wheat shipped in bulk would be sorted, and No. 1 sacks held as a reserve and to meet millers' requirements.

China

IMPORTS OF JUTE AND SUBSTITUTES

IMPORTS of raw jute, jute goods and substitute fibres into China as recorded in the *Monthly Returns of the Foreign Trade of China* (February issue) are given below, figures being in quintals :—

Product	Country	Quantity		
		January '40	February '40	Jan.-Feb. '39
Jute, raw ...	British India ..	4,670	3,810	14,100
	Others ...	5	...	...
	Total ...	4,675	3,810	14,100
Flax, ramie and hemp, raw	British India ...	...	...	...
	Philippine Islands	332	571	2,710
	Hongkong ...	357	7	632
	Others ...	113	3	65
	Total ...	802	581	3,407
Cordage, twine and rope	British India ...	183	181	909
	Hongkong ...	470	459	998
	Italy ...	19	58	44
	Japan ...	41	81	1,082
	Philippine Islands	1,454	760	549
	Others ...	9	87	229
	Total ...	2,176	1,626	3,811
Hessian cloth	British India ...	1,012	501	2,276
	Others ...	92	...	43
	Total ...	1,104	501	2,319
Gunny bags, new	British India ...	4,119	2,194	958
	Others ...	119	...	3
	Total ...	4,238	2,194	961
Gunny bags, old	British India ...	167	1,757	11,844
	Hongkong ...	3,119	1,621	4,070
	Others ...	367	66	5,138
	Total ...	3,653	3,450	21,052

Cordage Fibre Markets

EUROPEAN DEMAND SHOWS IMPROVEMENT

THE following is a review of the hard fibre markets, published in the April number of the *Cord Age* of New York, prepared by Hanson and Orth, under date April 1 :—

MANILA HEMP

The market during the past two months has been dull and uneventful. Demand in the American market has been small and the reserve stocks of manufacturers must have suffered a considerable reduction. Rope business has continued dull ; it is to be hoped that the customary "Spring trade" will bring about an improvement.

The purchases of hemp by Government agencies continues, but these purchases have been for moderate quantities at a time. The Government's programme of buying limited quantities frequently instead of large quantities occasionally, has been successful in avoiding stimulation of the market and interference with the bnsiness of commercial manufacturers. It is true that this programme was adopted on a dull and declining market, but even on a strong and advancing market, the Government buying will cause less disturbance if continued on the same basis.

During the past few weeks considerable demand arose for low grade Davao hemp for binder twine purposes. The effect of this on the market will naturally entirely depend upon the extent of the purchases which are actually made.

The European demand which had been moderate most of the month, has improved. The shipments from the Philippines to the U. K. during the first quarter of 1940 were 61,400 bales compared with 64,600 bales in 1939—decrease of only about 5 per cent. This comparatively slight reduction, on its face, does not seem to prove the correctness of reports which have been going about to the effect that the British manufacturers, under Government orders, are mixing large quantities of African sisal in their Manila rope. If, however, they are actually doing so, it would seem to indicate that the consumption of rope in England is large and consequently that shipments from the Philippines to England are not likely to decrease.

So far as the Continent is concerned, the shipments so far this year have been 26,300 bales as against 56,600 bales in 1939. While these reduced shipments can be said to be due to shipping difficulties, it hardly seems possible that the war time consumption of Manila rope on the Continent can have decreased. The elimination of shipments to Germany would not account for the falling off which has taken place. Consequently the Continent of Europe must be pretty well starved for supplies and the demand from that section seems, therefore, likely to increase.

MEXICAN SISAL

Sellers are not making any offers, and the production continues to be required to meet previous sales. The future of Mexican sisal depends to some extent upon the binder twine requirements during the coming Summer. The acreages sown to wheat, oats, rye and barley are substantially the same as in 1939. The average condition of Winter Wheat is low, but the low figure is largely due to the condition in Kansas, where less binder twine is used proportionately than in any other State. In a majority of the States, where binder twine is used on a comparatively important scale, the wheat condition figure is much better than the average.

No dependable information is obtainable regarding the probable history of Combine sales during 1940. There seems, however, to be some reason to believe that the experiences made by farmers with the Combine in recent years have proved that the Combine in practice has not been all that it promised to be in theory. As against this, however, the smallest and lowest priced Combine that has yet been made has been announced for the 1940 season.

A small Hay Baler, which uses twine instead of wire, was recently announced in the "Farm Implement News." This machine appears actually to have merit, and if it is exploited and were to be taken up by some important entity in the implement business, it might have a great effect on binder twine history.

AFRICAN SISAL

The market price of this fibre is now regulated solely by Sterling Exchange, the fluctuations in which during recent weeks have made a difference in the prices of African sisal of fully ½c a pound. It remains to be seen whether the British Dominions producing this sisal will seek to induce the British Government to advance the Control price of African sisal as respects shipments to non-British territory.

JAVA SISAL

The market is dull and business in this country has been on a small scale. While arrivals have been heavy, the fact that there has been no buying for so long a period, means that manufacturers' holdings must take care of a much longer consumption period than ordinarily.

Jute Substitutes

ONE OF THE LATEST TO ATTRACT ATTENTION

THE search for a substitute for jute has been going on for very many years, but in no case has a suitable fibre yet been found which has been able to compete with jute in the world markets, although some, such as *Urena lobata* in Cuba, have found a limited local use, states the latest issue of the *Bulletin of the Imperial Institute*, London.

One of the latest of these fibres to attract attention is that derived from *Thespesia lampas*, a shrubby plant belonging to the Malvaceae and occurring in the tropics of Eastern Asia and Africa. This fibre has long been used by the natives for rope-making and similar purposes, but tests made in the Philippine Islands indicated that rope made from strips of *T. lampas* bark was inferior in strength to that prepared from other materials available there (Phil. J. Sci., 1919, **16**, 605).

Considerable attention has recently been devoted to the possibility of growing the plant in Indo-China as a source of fibre to replace jute. That colony imports annually about 30,000 metric tons of jute sacks and 1,000 tons of cordage, so that there would be considerable local outlet, provided the quality proved satisfactory. According to an article in *L'Agronomie Coloniale* (1939, 28, No. 257, 161-173) *T. lampas*, which is known locally as *Polompom*, grows spontaneously on alluvial soils in the neighbourhood of water courses and ponds, over a considerable range of altitude. Like jute it thrives best on sandy-clay or clay soils, but is readily adaptable to other soil conditions, provided there is sufficient moisture present. An annual rainfall of around 70 in. is desirable.

In the wild state the seeds germinate with the first rains and make rapid growth, so that they are sufficiently large to withstand the floods occurring from time to time at the height of the rainy season. The plants will not grow, however, in swamps which are permanently flooded. The mature stems are commonly destroyed by the bush-fires occurring in the dry season, but the seeds remain uninjured. Indeed, it is said that the fires have a beneficial effect in helping to crack the hard shell of the seeds. The plant has remarkably good regenerative power in throwing up new shoots from the stool when cut back or damaged, a factor of considerable importance from the point of view of fibre production.

The yield of fibre from wild stands is naturally subject to wide variation. Figures of from 180-280 lb. per acre of dry fibre have been estimated, and it is claimed that this yield could easily be tripled by improving the wild stands or by establishing plantations. In a note on the fibre published in the *Bulletin Economique de l' Indochine* (1939, 42, No. 5, 1061) it is stated that yield of dried fibre of about 2,000 lb. per acre could be expected from a plantation, beginning from the second year. The stems are harvested at the end of the rainy season and the new shoots growing up from the stool reach a height of 8 to 10 ft. the following year.

The native method of obtaining the fibre is by retting in running water for a period of from 2 to 4 weeks. Green bark should be retted immediately after cutting, but stripped, dried bark from which the epidermis has been removed may be kept for a considerable time before retting.

The Imperial Institute had occasion recently to examine a sample of the fibre from Indo-China. This consisted of bundles of prepared fibre, in the form of strands about 4½ ft. to 5½ ft. in length. The fibre was of a fairly uniform, rather dark greyish-brown colour, and possessed moderate lustre. On the whole the sample was fairly well prepared, but some of the strands were gummy and the fibre filaments consequently not properly separated. The fibre generally was harsher than jute (*Corchorus sp.*) and except for its dark unsatisfactory colour it more resembled "Roselle" fibre (*Hibiscus sabdariffa*). The strength of the material was uneven and some of it was decidedly weaker than well-prepared jute.

A portion of the sample was submitted to a firm of merchants in London who furnished the following observations :—

"We have examined the sample and beg to report as follows:— 5ft., brown to dark greyish fibre, fairly clean with some lustre, but the preparation could be improved and the fibres further separated. The fibre is generally rather harsh, brittle and lacking in spinning quality. Improved preparation should make it more spinnable, but might further impair its strength. Jute substitutes, to command a good price, should be of light, practically white colour. A dark substitute fibre would only sell if relatively cheap compared with a Calcutta grade of similar colour. Unless the colour could be improved it might be difficult of sale. We suggest a value about equal to that of Calcutta Hearts, say £22 per ton. A light-coloured whitish or creamy fibre of similar nature might be worth £30 to £32 per ton."

The results of examination and the foregoing commercial valuation indicate that the fibre represented by the present sample, which is of very satisfactory length, would be readily saleable as a jute substitute if it were suitably prepared and could be offered in commercial quantities at a competitive price.

"CABUYA"

"Cabuya" is grown in some parts of Latin America. It is the name given to various species of agaves and *furcraeae*. The following details of this fibre are taken from the ***Monthly Bulletin of Agricultural Economics and Sociology*** **(International Institute of Agriculture), April, 1940.**

"Cabuya" is found as a woodland or hedge plant and is also grown in plantations with several thousands of plants. Cultivation of the "cabuya" plant has assumed considerable importance in Columbia, where it is used for the manufacture of sacks to the number of nearly 5 million for exporting coffee (a double sack is sometimes used), all the sacks for farm products, all the rope and string used in the country, all the material used in the manufacture of "espadrillas" (a type of shoe with string soles in general use by the Columbian peasants), and for the preparation of fibres for other purposes of secondary importance.

"Cabuya' fibre seems to be of better quality and more abundant when grown in regions where the average temperature is between 16° and 23°C, ; the fibre yield is between 3 and 4 per cent. and a plant produces between 250 and 800 leaves during its life time, which varies according to the variety, climate and fibre by soil.

The fibre is generally removed from the leaves by hand ; the work is hard and not very profitable as it takes a worker an hour to produce about kilogramme of fibre. Large plantations with more than 10,000 plants remove the machinery.

Within a few years there is every likelihood that "cabuya" fibre will become an export article, at least in Columbia.

PHORMIUM INDUSTRY IN NEW ZEALAND

The New Zealand Government is not neglecting the phormium industry, however, and the research that has been prosecuted for the past five years will be continued. For this purpose the Government is negotiating for the purchase of the Montoa swamp, intending to replant it on a five years' scheme with selected varieties. The work of isolating such varieties and cultivating their progeny and hybrids has been so actively pushed forward that several hundreds of strains are under examination and an increase in the number is now thought unnecessary. The work of selection among these improved varieties will continue, however, as the results already obtained have proved most promising. One new strain is reported to yield 30 tons of green leaf an acre every two years. The question of the extraction of the fibre is also receiving attention. The new Sutton Stripping machine is far superior to the former stripper, as it avoids bruising the leaf and by its greater output cheapens the production by about £3 a ton. The manufacture of phormium woolpacks has been very successful, and the factory is to be doubled in order to provide an output sufficient for the whole of the New Zealand wool crop.

EAST AFRICAN SISAL

The exports of sisal from East Africa during the past three years have been as follows:—

—	1939	1938	1937
	Tons	Tons	Tons
Tanganyika	86,811	101,400	90,682
Kenya	20,359	29,831	29,007
Uganda	1,248	1,807	. .
TOTAL ...	108,418	133,038	119,639

The decline last year was doubtless due to war conditions and will probably be made up in the present year. The Control originally fixed the prices on the basis of £19 for No. 1, but this was shown to be quite inadequate, and it has now been agreed between the Control and the Sisal Growers' Association that the prices to the merchants and brokers shall be No. 1, £26; A, £25 10s.; No. 2, £25; No. 3, £24; and No. 1. tow, £19—based on pre-war freight, plus

33-1/3rd. per cent., and any increase over this to be for buyers' account. Growers are also to take up to 10s. per cent for war risk, any excess over this to be borne by the buyer. The British and French Governments have agreed to take 70 per cent. of the total production. This will effect a very useful saving of dollar exchange which would otherwise be necessary for the purchase of Manila hemp. A large proportion of both naval and military cordages will now be made of sisal in place of other hard and soft hemps. With home consumption and the requirements of America and the European Neutral countries, it appears certain that the whole production will be absorbed.

Research work will continue during the war both in East Africa and in Europe on questions of cultivation and treatment of the fibre and on the organisation of the industry, and the search for new uses for sisal will also not be neglected The cess on exported sisal that had been imposed to cover the cost of this work has been increased to 3s. 6d. a bale. The arrangement that had been made with the Linen Industry Research Association to assist in the work has, however, been terminated.—*The Times Trade Engineering*.

SISAL FIBRE IN CUBA

PRODUCTION AND EXPORT

Production of henequen in Cuba in recent years has fluctuated between 25,000,000 and 35,000,000 pounds, of which about two-thirds is exported as fibre and about 5,000,000 pounds is shipped abroad in the form of twine, cordage, and rope states the *Daily Mill Stock Reporter* of April, 19. The remainder of the annual production is consumed in various forms by the domestic industries. The sugar industry provides the best market for locally manufactured henequen in Cuba, Germany and the United States have been the principal markets for Cuba's exports.

Exports to the United States in 1939 totalled 15,895,000 pounds, as compared with 8,179,000 pounds in 1938, and 14,958,000 pounds in 1937.

A SET-BACK TO BURLAP

COTTON FOR SACKING U.S. PEAS

According to the April *Jute Review* the policy of the U.S. Department of Agriculture to replace burlap sacks by cotton sacks is revealed in an announcement which says that cotion bags will be specified for sacking peas and hairy vegetables accepted as collateral by the Commodity Credit Corp. in the Pacific Northwest States. It is estimated that one million sacks will be needed for this season's crop. Previously burlap sacks had been used for these purposes. It is reported that the South Regional Research Laboratory has developed the new sacks especially for this purpose.

JUTE IN CARPETS

"ALTERNATIVES BEING CONSIDERED EVEN IN INDIA"

The following are extracts from a private letter received by a member of the Indian Jute Mills Association, Calcutta :—

"Our advertising representative has very recently been in Mirzapur, where he called upon several firms of carpet manufacturers.

"Discussing the general conditions of business they all commented on the high price of jute and declared that it was no longer economical as a weft in carpet making.

"I thought you might be interested to know of this reaction, because it shows that even in a small industrial centre in India alternatives to jute are being considered."

(Continued on Page 211)

Production of Jute

MANUFACTURE INTO TWINE AND OTHER VARIED PRODUCTS

THE following are extracts from an article in the New York *Cord Age*, the official business publication of the cordage, twine and allied industries in America, who acknowledge it to Esso Oilways, published by Esso Marketers, Standard Oil of New Jersey. They are presented to the readers of the *Bulletin* because of their intrinsic value.

Thousands of small farmers in the Provinces of Bengal, Orissa, and adjacent lands await eagerly for the rain. Not only would it insure the crop, but it would fill the stagnant, tepid pools in which the material that holds the jute fibre to the stalk is retted to enable the valuable jute fibres to be stripped easily from the plant.

Failure of the jute crop would be serious to workers in America, England, and other countries, as well as India, for

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(Continued from Page 210)

EXPERIMENTS MADE BY BOMBAY MILLS

The question of manufacturing a substitute for jute hessians for packing of cotton bales has been receiving the attention of an influential group of Bombay mills for sometime in view of the high price level of jute hessians, and as a result of these experiments, a trial consignment of 100 bales of packing material made from cotton waste has recently been sent to Calcutta, states a *United Press* message from Bombay, dated May 10.

The specification of this cloth has been made available to other mills and it is likely that other mills will take up its manufacture to meet the packing requirements of this country.

an important industry, the processing of jute into its many products, depends on jute from India, the only commercial source of the fibre in the world.

The earliest reference to this amazing fibre in Western language is made in 1746 when the captain of the vessel Wake noted in his log that he had put on shore "60 bales of gunny with all the jute rope belonging to the Company." Inhabitants of Bengal undoubtedly had used jute, or "jihot" as it is known in India, for several hundred years before this, but exportation from India did not begin until 1795.

The first jute mill was established in Dundee, Scotland, which remains an important centre of the industry today, but Calcutta, India, and cities in the United States are now important manufacturing centres for jute products. One of the most important of these products is burlap, a textile woven from jute yarn and used throughout the world for many purposes.

FOUR CONDITIONS

Four conditions, found only in the Bengal area, are required to grow *capsularis* and *olitorius*, the jute plant, members of the linden family. These are a rich alluvial soil; sub-tropical climate ; heavy rains during the early growth of the plant, and stagnant pools of water adjacent to the jute farms for retting the stalks.

If this retting, as it is called in the trade, had to be done at some distance from the jute farms it would be necessary to transport the whole stalks, rather than just the valuable fibres ; hence transportation costs would be too high. Only about 4.5 per cent. by weight of the original plant is valuable as jute fibre.

Jute is a bast fibre, the inner bark of the plant lying between the outer bark and the pith. Mature jute plants are from five to fifteen feet high, have stalks about ¾ of an inch thick. The plants grow best when placed about six inches apart ; wider spacing induces branching of the stems, detrimental to the growth of long fibres. Cutting begins when the plants start to flower, about three months after planting.

In the process of retting, the stalks, tied in bundles, are thrown into the stagnant retting ponds and submerged with clods of earth. Under water the gummy matter surrounding the fibre ferments, and after 10 to 20 days the retted stalks are picked up by the natives and the root ends beaten with paddles to separate the fibre from the useless parts. After hand stripping the jute fibres from the stalks, the fibre is air-dried, then rolled into bales, called drums, and hauled to the nearest *hat*, or market, generally by *beparis* who purchase the farmers' crops.

Here it is bought by jute dealers who arrange for its transportation to large jute centres where the fibres are classified and baled by a machine press, the first mechanical operation in thelr refinement. Raw jute bales average about 400 pounds, and in this form arrive in the United States.

In 1938, 88,205 tons of raw jute fibre reached this country. In addition, 1,040,042,474 yards of burlap cloth and 16,374,000 burlap bags were imported by the United States from India. The burlap is used largely by our agricultural industry for bagging farm products, by mills and factories that bag their products. It also is used here and abroad, particularly in Scotland, as a backing for linoleum and similar floor coverings. The manufacture of burlap is confined almost entirely to Calcutta, India and Dundee, Scotland.

In the United States raw jute fibre is processed into yarn and twine. About 40 per cent. of the yarn is used as a rug and carpet base, another 30 per cent. for making twine. The remainder is used as electric wire and cable filler and as a cable covering, in the manufacture of certain grades of packing paper, for wire rope core, as a roofing felt base, wall covering, and for similar applications.

To the mills comes pucca (well-packed) bales containing jute fibres four to twelve feet long, loosely twisted in five-pound bundles or heads. For ease in handling, the five-pound heads are made into lighter ones. These are sent through a softening machine consisting of 63 pairs of fluted rollers about four feet long, designed to roll, bend, and soften the fibres. When about one-third the way through the softener an emulsion is applied to the fibres to make them pliable and to lubricate them. If the jute is to be made into twine for wrapping paper, the amount of oil is reduced so, when knotted, oil will not squeeze from twine. In the oiled condition, fibres are placed in box trucks, each holding 800 pounds, remain in the trucks for 48 hours to allow the emulsion to permeate evenly through the mass. This so-called batching is followed by carding.

The fibres are first sent through a breaker card which, by means of spiked cylinders, reduce the fibre length from four to twelve feet to 12 to 15 inches. It also combs and to some extent parallels the fibres and shapes them into a sliver or flat ribbon about six inches wide. This is fed into a can or convenient holder.

The sliver from a number of cans is fed to a finisher card which performs the same basic operations as the breaker, but gives a finer combining, increased paralleling of fibres, and more uniform fibre mixture.

DRAWING

A number of cans of sliver delivered by these cards is fed to a series of drawing frames, emerging reduced by half in number. This sliver has been stretched, is more uniform in quality than before, and is of reduced width. There are four drawing frames, all delivering reduced size and more uniform sliver into cans.

ROVING

This sliver is fed to roving frames that stretch and twist the fibres into a fairly loose, soft product called rove which is wound on bobbins.

Then the rove is fed to spinning frames, in which it is drawn further and additional twist added to produce a rough, hairy material called unpolished yarn.

When a number of strands of yarn are twisted on a twister frame almost any diameter may be obtained for the finished product, called yarn or twine, depending on how it is to be used.

If two strands are twisted it is called a two-ply yarn, and so on up to as many plies as desired. The yarn is wound on wood or paper tubes to form cylinders or cones weighing from three to twenty pounds each.

The cones, sometimes called tubes, are bound up in burlap for shipment to rug and carpet mills where they are put up in convenient form to fit into loom shuttles.

Yarns and twines also are wound into balls of from ¼ to 10 pounds on balling machines. They also are wound in coils, consisting of 100 pieces of twine of fixed length twisted to curl up and resemble loosely wound 'rope. Twines are often wound on reels, holding 50 pounds, or on paper tubes holding from ¼ to 50 pounds.

Different forms and sizes of packages are required, depending on various uses.

To polish yarns and twines they are fed from bobbins into machines where they are immersed in a starch size, then passed over rotary brushes. These smooth down the hair-like fibres on the outside of the yarn, and the starch holds them down.

When they pass over a heated cylinder, the moisture evaporates, leaving smooth, polished surface.

Finished yarn or twine is sold on a basis of length and weight. The standard unit of length is 14,400 yards—called a spyndle. If a spyndle weighs two pounds it is called a two-pound yarn ; 10 pounds a 10 pound yarn, and so on.

Jute yarns are sold to manufacturers of rugs and carpets who employ them as a backing to which the woolen part of the rug is attached. In some cases jute yarn is woven in with the rug material. As a carpet and rug base, jute is a low cost yarn, doesn't stretch, possesses the desired strength, and lies flatter with less tendency to curl than other materials.

Also, certain grades of yarn are sold in large amounts to makers of jute webbing. Such webbing is used to support the springs in upholstered furniture. For this purpose the fabric's strength and non-stretching characteristics are particularly desired.

JUTE-SANDWICH

Manufacturers of kraft paper make a product in which jute yarn is sandwiched between two layers of paper. This is emyloyed to warp furniture and machinery for shipment. Another type of yarn, when braided and impregnated with asphaltic material, is ideal for packing the joints of underground gas and water pipes to prevent leakage.

Some electrical cable manufacturers use jute as a filler to separate the wires in the cable. Some jute is impregnated with an asphaltic material to improve its resistance to moisture, water, and acids. Such jute is used to cover submarine cables and cables laid in the ground. Often this jute covering is encased in wire armour for better protection.

New British Export Regulations

JUTE AND JUTE GOODS

IN our last issue under TRADE NOTES we reproduced an extract from the London *Financial Times* about the new regulations that came into force on March 25, 1940, with regard to payment for the export of jute and and certain jute goods. Owing to the importance of the regulation we now give below an extract of the Order :—

(1) Subject to any exemptions which may be granted by order of the Treasury, no person shall, except with permission granted by the Treasury, export goods specified in paragraph (2) of this Regulation to a destination in any of the territories specified in paragraph (3) unless it is shown to the satisfaction of the Commissioners of Customs and Excise—(*a*) that payment for the goods has been made to a person resident in the United Kingdom either in one of the currencies specified or with sterling funds purchased, after the 3rd of September, 1939, from a person in the United Kingdom who is an authorised dealer by a payment in one of those currencies, or (*b*) that payment for the goods is to be so made not later than six months, or such longer period as may be allowed by the Treasury, after the date of export.

(2) The classes and descriptions of goods referred to in paragraph (1) of this Regulation are as follows :

JUTE YARNS

Jute fabrics of any width, shape or length (other than carpets, carpeting and floor rugs, floor mats and matting).

Jute sheets, wrappers, gunnies, sacks and bags, not in actual use as coverings, receptacles or bindings for other goods.

(3) The territories referred to are as follows : *(a)* all territories in or adjacent to the continent of America with the exception of—*(i)* Canada, Newfoundland and any other part of His Majesty's dominions, *(ii)* the Argentine Republic, *(iii)* any dependency of the French Republic ; *(b)* the

Philippine Islands and all territories under the sovereignty of the United States of America ; *(c)* Belgium, the Belgian Congo and Ruanda-Urunda ; *(d)* the Netherlands and the Netherlands East Indies ; *(e)* Switzerland.

(4) The currencies referred to in the said paragraph (1) are as follows : Belgas, Guilders, Netherlands East Indian Guilders, Swiss francs, United States dollars.

OCEAN FREIGHT RATES

Ocean freight rate of $ 16 per ton on burlap and $ 13 per ton on raw jute from Calcutta to North American Atlantic and Gulf ports during the first quarter of 1940, have been extended for burlap to bills of lading dated July 7 next, and for jute to bills of lading dated June 30 next, states the *Cord Age* in its April issue.

MARINE INSURANCE RATES INCREASED

The Institute of London Underwriters announces sharp increases in the rates of war risk insurance between various world centres and British and French Ports west and south of Southampton and Brest.

The rates to and from the French ports concerned have now been brought into line with those of the British ports which themselves are increased, meaning that in some instances the French ports' rates are doubled. For instance, between Brest and ports in the East and Australia, the rate is now 100 shillings per cent., against the former rate of 50 shillings.

INCREMENT OF FREIGHT ON E. B. & A. B. RLYS.

The *United Press* understands that an increase in freight on jute and tea traffic on the Eastern Bengal and Assam Bengal Railways will come into force shortly. Addition to freight to be imposed, it is learnt, will be 12 per cent over and above the present rate. Jute and tea were exempted from the increase in freight on account of the existence of certain local agreements, which will lapse in a couple of months.

Jute and Flax

THEIR UNIQUE FEATURES

THE following interesting article by Mr. C. R. Nodder, M. A. (Cantab.), Director, Technological Research Laboratories, Indian Central Jute Committee, is reproduced from the March number of the *Indian Farming*, issued by the Imperial Council of Agricultural Research:—

It is intersting to review the qualities which render jute such an important fibre crop, particularly for Bengal and adjacent provinces. Of first importance is its eminent suitability for the production of bags and sacks of various types which have an enormous demand for the storage and transport of a variety of products. The large yield of fibre per acre makes the crop economical and attractive to the growers. We may regard this high yield as due to the tallness of the plant combined with a fairly thick stem and the ability to grow in dense stand. The typically unbranched habit of the plant favours this dense stand. Many of its possible competitors, e.g. *Urena lobata, Sedarhombifolia* and even *Hibiscus* species, have a greater tendency to branching, besides being shorter. Other competitors, such as sunn-hemp *(Crotalaria)* and sisal (*Agave* species) produce a coarser and stiffer fibre, more suitable for cordage, but still suitable for sacks of a coarse type. The position of ramie (*Rhea*) and true hemp (*Cannabis*) in comparison with jute is hard to assess but one feels that with the cheap labour available in India they have potentialities which have not so far been realised. Both yield fibre which is superior to jute for the production of fabrics of the finer qualities. Hemp is suitable for canvas, sacks, thread, cordage and clothing and miscellaneous domestic fabrics, and ramie for clothing, napery, thread and furnishing materials. An extended use of these two fibres appears to be linked with the development of suitable machinery for decorticating and of chemical and biological methods of retting or degumming.

Attempts which have been made to grow jute in regions other than North-East India appear to show that the climatic and soil conditions needed by the plant are difficult to find, or reproduce, elsewhere; but experiments in this direction, for example in Egypt and Japan are being watched with interest.

Possibilities of flax

The possibilities of the production of flax (*Linum*), the queen of vegetable textile fibres, in India are not yet clear. That it can be grown is evident from the experiments at Dooriah and elsewhere from 1906 onwards down to the recent tests of the Department of Agriculture, Bengal. It is a cold weather crop and if sown in November can be pulled about four months later. Success seems to depend on the possibility of maintaining a small, but adequate, supply of water to the roots. Generally the fibre produced is rather short, but no shorter than much of, say, the Irish crop in many seasons. In Europe a yield of 40 stones (5 cwt.) of fibre per acre is considered very good. The yield of jute fibre is commonly over 10 cwt. per acre in Bengal. It is probable that in Bengal the average yield of jute fibre per acre will be some four times that which can be expected for flax, say, 12 cwt. compared with 3 cwt. But flax may sell at £80 per ton, compared with £20 per ton for jute, and good qualities even in fairly normal years may fetch over £100 per ton. Where labour is cheap a fibre that sells even at £60 per ton seems well worth attention and flax is of some interest to Bengal on account of the possiblity of blending with jute for yarn production. More over, boats that take jute to Dundee could also carry flax.

In common with jute the flax plant is characterized by its typically unbranched habit, but it is interesting to note the differences between these fibres. In addition to the very considerable differences in length and fineness the jute fibre-system is characterized, in common with other plants of the natural order *Tiliaceae* and other closely related orders by a pronounced mesh-structure. On account of this the reeds of fibre in a bale of jute, each coming from a single plant, maintain their individuality and can easily be separated. In the case of well retted and scutched flax this is hardly possible as the fibre coming from a single stem is to a large extent split longitudinally from root to crop. Never-the-less a mesh structure does exist in the flax fibre system, but compared with jute it is much less conspicuous and the meshes much more elongated. The great length of the jute fibre and the presence of the mesh-structure renders unsuitable a hackling process such as is used for flax.

Limitations

Another striking difference between flax and jute is the high degree of lignification of the latter, the lignin content being between 10 and 20 per cent as compared with about one per cent for flax free from shives. The high lignin content is associated with a greater stiffness in the jute fibre, making the application of batching emulsion necessary in spinning. A third important difference between flax and jute fibre is that the ultimate fibres of the former have an average length of about 1 inch. (25·4 mm.) while those of jute have an average length of only 3 or 4 mm. In bleached yarns the cementing inter-cellular substances, which bind the ultimate fibre in the fibre strands, are largely removed. The ultimate fibres consequently tend to become isolated, but the process is far from complete unless the bleaching is carried to a very high degree of whiteness. The partial separation of the ultimate fibres is accompanied by a loss in the tensile strength of the yarn, amounting in the case of flax bleached ¾ white to 10 to 20 per cent, according to the quality of the yarn and the care taken in the process. In the case of jute the loss in strength is more serious as the ultimate fibres are much shorter and the the twist cannot hold them together so well. When wet, particularly, the loss in strength is apt to be very high. This means poor resistance to laundering and tends to limit the usefulness of jute yarns for weaving clothing materials.

A yarn made from a mixture of jute and flax may still retain adequate strength after bleaching, even when wet, as the longer flax fibres help to keep the yarn together. There thus appears to be considerable scope for the extended use of blended flax and jute yarns for clothing materials. For furnishing materials (for curtains, upholstery etc.) the use of a jute yarn twisted with a flax or cotton yarn offers considerable prospects since after the doubled yarn is bleached the flax or cotton affords reinforcement for the jute component and the strength is adequately maintained. Increased production of goods from blended jute and flax yarns, or from jute yarns doubled with flax or cotton yarn, might considerable increase the world consumption of jute. In India, production of such goods, suitable for clothing and furnishings, would necessitate the installation of machinery suitable for spinning yarn of sufficiently fine counts (3 to 5 lb. per spindle) and the training of labours ufficiently skilled to carry out lhe spinning of these finer yarns. These are serious difficulties but there is no reason to think that they are insuperable. There also appears to be scope for the production of canvases from blended jute and flax yarns.

Strength and cheapness

It seems eminently logical to contemplate the combined use of flax and jute in the manner indicated, and so realize the benefits of the great strength of flax and the cheapness of jute. And it seems logical also that such a combination should be attempted in the country where jute is produced.

Some of the attempts to produce flax fibre in India appear to have suffered from a lack of proper machinery.

It is essential that the machines used for breaking the retted and dried flax straw and for scutching should be similar to those that are in successful use in Europe, and it is doubtful if satisfactory results can be obtained unless they are power-driven in order to ensure that the correct speeds of the rollers and blades are secured. It may be suspected also that failures to produce a high quality of fibre have been sometimes due to breaking and scutching while the moisture-content of straw and fibre was too high. When the straw is too moist the wood is not brittle enough to be properly acted on by the breaker and it is then difficult to clean the fibre properly in scutching and the fibre obtained is of a hairy type which is not liked. It is likely that the best results may be obtained if these operations could be done during the drier months of the year. But it is also important that the flax should not be over-dry during breaking and scutching as this results in a low yield of long fibre and excess in production of codilla or scutching tow ; there is also a large production of dust during scutching which makes the process very unhygienic. The success of attempted flax fibre production will probably depend very largely on the degree to which satisfactory humidity conditions can be obtained for a period long enough to get the breaking and scutching operations economically carried out. From experience in Ireland it may be suggested that an atmosphere with a relative humidity (between 60 and 70 per cent.) is most suitable and this consideration should guide the choice of area and the time at which scutching is done.

There are no doubt many difficulties in the way of producing fibre of the highest quality but there seems no reason why fibre should not be produced that would sell at £60 per ton in a normal year and with cheap labour available it seems very likely that this would give a fair margin of profit. In conclusion it may be said that if fibre-flax is grown for fibre it should be sown and cultivated under conditions suitable for a high yield of good fibre. A good yield of seed that might be used for oil extraction cannot be expected, at least with the strains of flax at present available. In Belgium and Holland 160 kilos of seed per hectare is considered suitable (140 lb. per acre) and in Ireland about 1 cwt. per acre is sown. The guiding principles here are that thicker sowing usually gives a finer fibre but that the crop is more liable to lodging. Weeds are liable to give more trouble when the sowing is thin.

A three to four-fold yield of seed may be expected if the crop is allowed to stand until the seeds are ripe, but normally it is pulled much earlier when the stems are yellowing and leaves have fallen off about three quarters the way up the stem. Attempts may be made to save the seed by cutting off the crop or bough end of the plants after pulling, prior to retting, and storing these under dry conditions until the seeds have matured. From time to time considerable success with this procedure has been reported.

On the other hand when linseed type flax is grown for seed there is everything to be said for attempts to extract the fibre that is present in the straw. It is short and of low quality but can be cottonized and spun in admixture with cotton, or it may be considered for paper manufacture.

Trade Notes

CUTTINGS FROM THE BRITISH PRESS DURING APRIL

German Staple Fibre Industry

THE Dresdner Bank, in its economic survey, quoted by the "Volkischer Beobachter," gives an account of the remarkable development of the staple fibre industry in Germany, one of the most striking of recent textile changes. It states that the German production of staple fibre in 1940 is expected to be 300,000 tons, compared with 200,000 in 1939 (and 3,000 in 1933) ; rayon production is to be 100,000 tons. (British production last year as 52,000 tons of rayon and 27,000 tons of staple fibre.) Many special types have been created for the woolen and cotton industries and lately the jute industry. The so-called "W-Zell-woolen," the wool types of staple fibre, cost 1.80 to 2 marks the kilogram, as compared with 3. 50 for imported natural wool ; the cotton types ("B-Zellwoolen") of standard quality have fallen from 1.80 marks in 1935 to 1.45 now : they remain dearer than raw cotton. (Taking the mark at a shilling, the wool types range from 9¾d. to 11d. a pound, and the cotton type is 8d.)

Pine and beech wood are beginning to be replaced by straw and potato tops ; one of the biggest staple fibre mills is now using straw as its raw material, and this year Solanum G. m. b. H. is beginning large-scale production of cellulose and staple fibre from dried potato tops.

The I. G. Farbenindustrie, the pioneer with its "Vistra" in staple fibre production, remains, with its mills at Wolfen, Premmitz, and Dormagen, the largest producer of staple fibre. Other important producers are the Spinnstoffabrik Zehlendorf—A. G., the Spinnstoffwerk Glauchau—A. G., the the Deutsche Acetat-Kunstseiden—A. G.; "Rhodiaseta" (Freiburg), and Dr. Alexander Wacker G. m. b. H. (Munich). The Glanzstoff combine recently founded out of its own resources a special enterprise for staple fibre production, the Spinnfaser—A. G. (Kassel), with a share capital at present of 15,000,000 marks ; it comes next in importance to the I. G. Farbenindustrie in staple fibre production, with nearly double the output of any of the other new enterprises.

Apart from these, since 1935 a large number of staple fibre producing enterprises have been started independently of the production of rayon. The founders in each case were the textile manufacturing mills interested in staple fibre supplies in particular localities ; they raised the needed capital by joint investment. With the assent of the authorities of the Four-year Plan a special incentive for this was created by granting them a special quota of half a ton of staple fibre for each 1,000 marks of capital ; later the quota was raised to one ton for Sudeten German enterprises. In this way there have come into existence the Thuringische Zellwolle—A. G. (Schwarza), the Suddeutche Zellwolle—A. G. (Kelheim), the Sachsische Zellwolle—A. G. (Plauen), the Schlesische Zellwolle—A. G. (Hirschberg), the Rheinische Zellwolle—A.G. (Siegburg), the Zellwolle und Zellulose—A. G. (Kustrin), the Kurmarkische Zellwolle und Zellulose (wittenberge), the Zellwolle Lenzing—A. G., and the Rheinische, Kunstseiden—A. G. This last firm is later to turn exclusively to rayon production.

The most recently founded enterprises manufacture their own cellulose, thus reducing costs of production. This applies to the Kustrin works, which use deal, the Wittenberge works, using straw as their raw material and including artificial jute in the production, and the Austrian Lenzing works, which use beechwood.

These "regional" staple fibre enterprises have been planned in almost every case for a daily output of 60 tons of staple fibre. That output has already been attained, or slightly exceeded by the Rheinische Zellwolle—A. G., the

Schlesische Zellwolle—A. G., the Thuringische Zellwolle—A. G., and the Zellwolle und Zellulose—A. G., of Kustrin. The biggest production appears to have been reached at present by the Suddeutsche Zellwolle—A, G., with an output of 70 tons a day. The Sachsische Zellwolle—A. G. last year reached 40 tons a day. The Kurmarkische Zellwolle und Zellulose—A. G., of Wittenberge, and the Zellwolle Lenzing—A. G. have only recently begun production ; the latter is producing staple fibre that is highly resistant to the effects of moisture.—"Manchester Guardian."

Jute Export Trade Conference

A meeting of business men interested in the export branch of the jute industry was held recently in the board-room of the Association of Jute Spinners and Manufacturers, Dundee. The meeting was under the auspices of the Chamber of Commerce, and Mr. D. A. Anderson, president of the Chamber, presided.

A committee to examine further into the matter was appointed, including president and vice-president of the Chamber of Commerce, six members to be appointed by the Chamber of Commerce, three by Dundee Jute and Linen Goods Merchants' Association, and three by the Association of Jute Spinners and Manufacturers.—"Furniture Record"

The Jute Industry in War

At the outbreak of war the jute industry was immediately placed under the control of the Ministry of Supply, and by an Order dated September 1, 1939, the disposal or acquisition of jute was forbidden. The Order applied to raw jute, jute waste, jute cuttings, jute yarns and jute twists. At the same time a schedule of maximum prices was issued above which future transactions were prohibited, and power was given to the Minister of Supply to ask for returns relating to stocks or any other information, from concerns dealing with or trading in jute. Dealings in jute were thus impossible, but the Control of jute (No. 2) Order, which came into force on September 26th, substituted a licensing system for the prohibition and revoked the schedule of maximum prices. A licence is necessary for the purchase or sale of jute and for its spinning, weaving or other manufacture. As soon as the restrictions were removed there was an immediate rush to obtain supplies. Buyers who normally used Calcutta goods clamoured for delivery of Dundee fabrics, as shipments from Calcutta were considerably delayed, and spinners and manufacturers in Dundee were unable to satisfy all requirements. Prices naturally advanced rapidly. The price of yarns rose from 2·10*d*. for common 8 lb. cops to 5*s*. 10*d*. in a very short time, and that of hessians advanced from $3\frac{15}{16}$*d* for $10\frac{1}{2}$ oz. 40 in. and $3\frac{1}{16}$*d*. for 8 oz. at the end of August to 8*d*. and 6*d*. respectively. The full group of raw jute (Daisee—2/3, shipment to Dundee) jumped from £21-17*s*.-6*d*. per ton to £56. The peak was reached at the beginning of December, but the price of Daisee—2/3 has since declined to £33-10*s*., common cops to 5*s*., $10\frac{1}{2}$ oz. 40 in. hessians to $6\frac{3}{8}$*d*. and 8oz. to $4\frac{7}{8}$*d*. Prospects for the next jute crop are very favourable, and, as there should be a fair carry-over from the present crop, supplies of raw jute will be plentiful, and prices in consequence will probably be kept within reasonable limits.

The prosperity of the trade during the first months of the war was due largely to Government orders for sandbags and camouflage hessians. The Indian Jute mills were asked to supply 300 million additional sandbags, while Dundee's quota was increased to 4 millions a week. The market experienced a setback in the third week in January, when the Government cut the Indian deliveries of sandbags by 50 per cent., namely, to 54·5 million bags per month instead of 109 millions, Indian deliveries will continue at the lower rate until August, while those from Dundee manufacturers will be completed by April 11. New business in Dundee is scarce, chiefly because of the much larger imports of

Calcutta goods into the United Kingdom, and several firms are working only four days a week. Employment since the war has been good, but unless fresh Government orders are forthcoming many workers will soon be placed on short time. In July. 1939, there were 28,410 insured persons engaged in the jute industry, and on February 12, 1940, 12·3 per cent. of these were unemployed, compared with 15·5 per cent. on August 14, 1939. Some works which have been in the habit of running day and night shifts have had to cease night working, as many young men have been called to the Colours and women are not allowed to work at night. Both merchants and manufacturers have increased their overseas sales in recent months. Sellers have wisely reduced their prices to obtain orders, which they could afford to do, as profits in the earlier months of the war were considerable amounting to as much as £20 to £25 per ton on yarns and cloth. But as Scandinavia has been a good customer of the Dundee jute industry—Denmark purchased large quantities of bacon wrappers—it will be adversely affected by Germany's latest moves.—"Economist".

Linoleum is 30 per cent. Dearer Now

Housewives who have decided to recover their floors during their spring cleaning will have to pay more for their linoleum, states the "*Evening standard*" Reporter.

All the big manufacturers have increased the prices of all grades by 12½ per cent. this week. This makes a total increase of about 30 per cent. since the outbreak of war.

Manufacturers are reluctant to see why this big increase has become necessary. When I asked an official of the Linoleum Manufacturers' Association, he said :

"I believe all our members have increased their prices, but I am not permitted to give any reasons."

"I asked one of the biggest manufacturers of linoleum in the country."

"We cannot give any information without reference to the Linoleum Manufacturers' Association. They are the body who deal with our interests," I was told.

RAW MATERIAL SCARCE

But I learn from a retailer that the manufacturers are having great difficulty in getting raw materials most of which are imported. These include linseed oil, resin, kauri gum, cork, pigments and jute.

Argentine, India, Russia and Canada provide the flax seeds for linseed oil. They are crushed at Hull, Edinburgh and London.

The United States supplies most of the resin, kauri gum comes from the kauri pine tree of New Zealand, or from Africa and districts in Southern Europe, and the jute from Bengal.

It is possible that linoleum prices will rise still further as the present stocks of raw material are exhausted.

Demand for Jute

The history of the Bengal jute mill industry has not been a happy one during the past few years, but even before the war came to its assistance the vigorous steps towards rehabilitation taken by the Indian Jute Mills' Association were slowly but certainly bearing fruit, remarked Mr. R. Langford James in the course of his speech recently as Chairman of the National Bank of India Ltd., at its ordinary general meeting held at 24, Bishopsgate, E.C. As was to be expected, of course, war demands—including orders for over 900 million sandbags for ourselves and our Allies—have increased the activities of the mills materially. It is of interest to observe that, as in the case of the last war, the Allied Governments' requirements are being supplied practically at cost price ; in some cases indeed, where manufacturers have found it necessary to replenish their stocks of raw materials after contracts were entered into, at an actual loss.

Unhappily, so far as the free balance of the mills' products is concerned, the market has been dominated by speculators, a well-known state of affairs in Calcutta. Early in the winter prices were rushed up to almost fantastic levels and, though this phase did not last long, values are still on the verge of of what may prove an unhealthily high level. While, therefore, the Calcutta mills are at present enjoying a period of prosperity beyong anything they have experienced for many years, taking the long view, it would probably be in their interests were values to subside to a level at which their products would be of greater attraction to the actual consumer. This aspect of their business is kept prominently before the Committee of the Mills' Association.—"The Financial Times"

The Empire's Resources

The manifold resources of the Empire in fibres, and notably in jute and sisal, were indicated in a lecture by Mr. Alfred Wigglesworth to the East India Association and the Royal Empire Society. Sir Harry Lindsay, director of the Imperial Institute, presided. Mr. Wigglesworth, referring to Germany's complaint before the outbreak of war of denial of access to world markets, said that Empire products had been available for sale to all who could pay for them. Jute from India, for instance, was shipped to Hamburg in large quantities until war was declared. In fact that port was an emporium for the distribution of Indian jute to Central European countries large stocks being held available, and their market price generally being about the lowest in the world.—"The Times"

Future of Jute and Sisal

The respective parts likely to be played in the world's future commerce by India's jute and East Africa's sisal formed the main subject of a paper, "Empire fibres", read by Mr. A. Wigglesworth. The occasion was a joint meeting in London of the East India Association and the Royal

Central Asian Society. The 2,000,000 ton jute crop that is grown and prepared by over a million ryots, said Mr. Wigglesworth, yields at pre-war prices some £40,000,000 to £60,000,000 annually.

India, having a monopoly of jute, has delayed too long the start of research, which in this scientific age plays so important a role in industry, but this is now being remedied, a department having been organised in Calcutta within the last few years in charge of Dr. S. G. Barker, who has published a valuable treatise on his findings. Research has a double object. First, to improve methods of growth and preparation by selected pedigree seed so as to yield a heavier crop of better quality. Though it is not easy to increase quantity and to improve quality concurrently, progress has been made in the direction of a heavier crop. To Mr. R. S. Finlow, late Director of Agriculture in Dacca, credit is due for his pioneer work in this direction. The second type of research seeks to extend the uses of jute. Here is a wide field to explore. For the moment, demand being centralised on sandbags, there is no immediate urgency to seek new uses, but the problem may become acute after the war.

Experience has proved that foreign competition to grow jute is a most unlikely contingency, as no country which has made the attempt has possessed the requisites of climate, soil, water supply, and skilled labour, which in Bengal is supplied gratis by the family of the grower.

The Dutch have produced in the Netherlands East Indies serviceable fibre from *Hibiscus sabdariffa,* commonly called *roselli* which spins satisfactorily on jute machinery, but being a plantation crop, its cost far exceeds that of Bengal jute. The Belgians are growing in the Congo a substitute fibre, *Urena lobata,* but again its cost is relatively high, so it is unlikely to compete with jute. Brazil has also produced *hibiscus* fibre similar to jute. It is marketed locally, thus displacing Calcutta imports, which are snbject to a heavy import tariff. This fibre is most unlikely to compete with Indian jute in foreign markets.

SISAL

Sisal was very little known until recently ; Cortex found the agave indigenous in Mexico, supplying the Aztec tribe with fibre for rope and fishing-twine, while alcohol, beer, fabrics, medicine, brushes, and many other products were produced from different varieties of the plant. Not until 1836, was it planted experimentally in Florida, but no development took place in that region. Subsequently, in 1893. Florida supplied plants to East Africa ; thence it spread to other countries now engaged in its production. Java began its cultivation about 1900.

The Mexican monopoly having been broken, East Africa now tops the list for volume of exports, although climatic and soil conditions vary so much from those in the country of its origin.

Africa may, indeed, come to be the world's main supplier of so-called hard fibres, with a steadily expanding production.

It can be readily perceived how important a place the British Empire occupies in the supply of hard and soft fibres.

There are already indications of a reversal after the war of the mistaken economic policy of past decades. Such changes, to be beneficial, must be wisely considered as part of a broad policy, freed from the stigma of sectarian interests. The change must be gradual and carefully studied from an international point of view. If each stroke of the artist is correct his picture may become a masterpiece.—"Manchester Guardian".

Monthly Notes on Progress of Schemes

THE following is a short review of the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

The Special Sub-Committee which was appointed by the Main Committee to consider the provision of medical facilities to the staff of the Indian Central Jute Committee met on the 29th May and recommended the continuance of the existing arrangements for medical aid and laid down further concessions which should be granted to the staff.

Replies have now been received from two-thirds of the Associations and individuals whose views were called for on the tentative proposal for the stabilisation of jute prices. These have been summarised and tabulated. A meeting of the Special Sub-Committee will be called in due course to consider the matter further.

A meeting of the Local Sub-Committee was held on the 19th June when several important questions of administration were discussed.

Secretary left for Dacca on the 7th June and returned to headquarters on the 11th June. While at Dacca, he inspected the Agricultural Research Laboratories and found that the progress of work was satisfactory. He also discussed with the Dean of the Faculty of Science and other Professors of the Dacca University the question of collaboration between the University and the Agriculural Research Laboratory of the Indian Central Jute Committee, and the possibility of initiating fundamental research on the agricultural and technological problems of jute in the University in co-operation with the Committee. The response from the University was extremely encouraging. The whole matter will be further examined by the President and in due course by the Committee. Secretary also examined the question of providing quarters for the staff of the Agricultural Research Laboratories at Dacca.

The work on the preparation of the Triennial Report on the working of the Indian Central Jute Committee and the Annual Report of the Committee for 1939-40 is in progress.

Marketing and Transport

Dr. Husain, Marketing Officer, assisted by Mr. Kazimi, Senior Assistant Marketing Officer, were engaged throughout May on work connected with the First Marketing Report. The revised draft was issued to the President and members of the Publication Sub-Committee early in the month. On the suggestion of the Secretary, a draft summary of findings and recommendations was prepared and, late in the month issued for the consideration of above Committee. This body held its first meeting on 31st May, 1940 and various comments and amendments suggested by members were discussed and those agreed upon noted for inclusion in the report.

The Senior Marketing Officer drew up a synopsis for the Second Marketing Report, which deals with the utilisation of jute in India, the marketing of manufactured goods and the jute export trade. He also prepared a note reviewing the work of the Marketing Section since its inception in September, 1937.

A number of special fibre samples were collected for tests in the Technological Laboratories.

Agricultural Research

The sowing of entire experimental area was completed between 7th and 18th May. Three of the earlier sown experiments were resown. Germination is on the whole satisfactory. The condition of the early sown *capsularis* crop is good.

The day to day formation of the fibre was traced in young seedlings. With the insertion of the fourth leaf the fibre was formed.

Tannin content of the jute plant was estimated. *Olitorius* contained more of tannin than the *Capsularis.*

Thirteen commercial samples of fibre received from the Technological laboratories were examined for the evidences of apion damage in the jute stem. From nine to ninety one per cent. of the fibre was damaged by apion attack. Where the damage was least i. e., nine per cent. each of the damaged plant had only one puncture as against four puntures in each of the ninety-one per cent. of the heavily damaged plants.

The possibility of disinfecting the seed by treating them in very hot water, holds out promise. By adopting a suitable combination of temperature and the duration of the treatment it has become possible to reduce materially the source of stem-rot infection without impairing the vitality of the seed.

The jute crop lying on the banks of the Dhaleswari and Jamuna rivers was inspected. The condition of the crop is not satisfactory. Throughout, the crop suffered from drought. In some places the hails damaged the stems and consequently there was considerable branching. In most places *Falgun,* February-March-sown crop is better than the later sown ones. In places Mole-Crickets had cut off young seedlings, resulting in considerable gaps in the stand of the crop. A new disease which causes the curling of the top leaves was *noticed at Tarpasa and near Fatulla.*

Technological Research

It is perhaps common knowledge that conditions of growth and retting have more influence on fibre quality than the variety of jute that is sown, but the exact quantitative *data* now being obtained on agricultural samples whose history is fully known will clearly be of great value. From the point of view of selection and breeding work the importance of the results obtained lies in the stress that is put on the necessity that retting should be carried to a corresponding stage what may be called the "technical end", if the value of the fibre from different strains is to be accurately compared.

From tests made on Government Farm Samples (1938 crop) there can be no doubt that in some cases retting was not carried to a proper stage, as will be apparent from the following table :—

Variety	Grown and retted	Quality ratio × 100	Weight C. V. %
Chinsurah Green ...	Berhampore ...	110·3	21·8
Do. ...	Chinsurah ...	82·0	27·5
D.154 ...	Mymensingh ...	78·3	25·5

To date nearly 200 samples of fibre have been subjected to full spinning trials and the yarns submitted to the full range of tests.

The work of examining the chemical and physical characters of fibre samples which have been subjected to spinning tests is progressing steadily. Samples of cuttings with a high percentage of barky matter almost invariably show .very high losses in weight when boiled with dilute alkali and this promises to be a very useful test.

MOISTURE IN JUTE

The work undertaken at the request of the Indian Jute Mills Association to find out a recognised basis on which the moisture content in parcels of jute can be calculated has now made some substantial progress ; a set of results obtained in last December (regarded as provisional was given in the *Bulletin* of that month on p.207. Since then more reliable results have been obtained as a result of further tests with improved technique and they are given in the table below ; the basis of calulation has been that the dry weight is represented by 100 and the moisture content is represented as a percentage of that dry weight ; this percentage of moisture content is the "regain".

REGAIN AT 80° F.

I. J. M. A. Sample	Relative Humidity %						
	40	50	60	69·5	74·6	79·6	89·7
Gaibandha	8·2	9·9	12·1	14·4	15·8	16·7	21·8
Chandpur	8·2	9·8	12·1	14·4	15·5	17·0	21·9
Nikli	8·3	9·8	12·0	14·3	15·3	16·5	21·7
Madaripur	8·6	10·3	12·4	14·9	15·8	17·2	22·4
Goalundo	8·6	10·0	11·9	14·8	15·3	16·9	22·3

Drying was carried out at 105-110° C.

From the curves obtained by plotting "Regain" against "R.H. (Relative Humidity) it will be possible to see what regain corresponds with equilibrium with an atmosphere of any particular humidity. This should form a satisfactory basis for fixing acceptable regain standards.

The average yearly R. H. of Calcutta air is 77% and the temperature 77·7% (from hourly readings).

The average for Nov. to May is 72% R. H. and for the wet ~~months June to October it~~ is 84·0% R. H.

It will be a matter for agreement between interested parties what R. H's are chosen as representative for the purpose of fixing acceptable regain standrds.

One point to be borne in mind throughout is that baled jute absorbs moisture very slowly and that if it is dried in the sun the regain can be brought down below 12% quite easily even when the prevailing R. H. is high, (86% or above). So that if jute is really dry when baled—and there is perhaps no reason why it should not be—the regain after storage up-country or in Calcutta for many months will remain satisfactorily low.

Still further tests are being made and the results are expected to be available by mid-August.

Improvement of Jute Forecast

The field survey work in connection with the Sampling Census of Jute in Bengal commenced from the 1st of May and is now in full swing. An account of the work already finished in 16 such blocks is given below :—

District	No. of grids allotted by Statistical Laboratory	No. of grids completed in May
1. Nadia	1,502	580
2. Jessore	2,562	840
3. Rajshahi	1,974	870
4. Bogra	3,605	1,060
5. Rangpur	2,770	1,000
6. Mymensingh	16,210	6,770
7. Dacca	6,524	3,420
8. Tippera	6,364	2,500
Total ...	41,511	17,040

The month of May was practically without rains and the progress was very satisfactory but when the monsoon breaks out the progress may be retarded.

In low, riparian areas the work is likely to be finished by the second week of July but in comparatively dry and higher areas, the work may well proceed up to the middle of August.

Statistics & Information

The work of revising the draft of the report on World Consumption of Jute in 1938-39 was completed. Several queries regarding jute prices were attended to. The progress report of the Statistics & Information Scheme for inclusion in the triennial report of the Committee is under preparation.

The United States Government has been approached through the American Consul in Calcutta for a regular supply of prices of jute and its substitutes as collected by the Bureau of Labour Statistics, U. S. Government. On the basis of these prices it will be possible to compile index number of prices, which has been recommended by the Bengal Jute Enquiry Committee.

The routine work of collection of information and statistics proceeded in the usual course.

Publicity

Besides the usual routine work in connection with the collection of information and the preparation of the monthly *Bulletin*, leaflets in Bengali, Hindi and Oriya, were prepared to instruct the jute-growers in a better method of retting the fibre to enable them to get a better return for their work on the preparation of the fibre. These were distributed in large numbers to District Magistrates of nineteen jute-growing districts in Bengal, and to the Directors of Agriculture of Assam and Bihar and the Director of Development of Orissa for wide distribution among the jute-growers in their respective areas. A Press-Note informing the public of the fact was also issued and it was given prominent publicity in most of the papers in this side of India.

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CONTENTS

* * *

PAGE.

Indian Prices During June 241

Production and Consumption of Jute 244

Index Number of Prices 245

Preliminary Jute Forecast 246

Jute and Fabrics—Fixation of Minimum Prices ... 247

Govt. Advice to Growers 248

Working Hours to be Reduced—Indian Jute Mills Association Decision 251

Jute Orders from Britain 252

Old Jute Crop—Govt. Purchase 253

Loss of Jute Markets due to War 254

Jute in U. P. 255

India's Loss of Markets—Alternative Markets in America 256

Deterioration of Jute—A Paper read at Bradford Textile Institute 257

Jute and Sisal Industries—A Paper Read at Royal Empire Society 260

Sisal Industry—Prospects in Bengal 270

The Fibre-Agaves 272

Australian Trade Commissioner for India 272

Moth Proofing for Sacks 275

U. S. A. 280

Cotton for Bale Covers 284

"Cotton Roads" 285

American Heavy Paper bags 286

Dundee Prices 286

Fibre Position of Germany 287

African Sisal Exports 289

East African Tendency to Empire Resources ... 289

Sugar Production in Cuba 290

Hemp Rush in Jugoslavia 290

PAGE.
Abaca Prices 290
Tropical Interlining 290
"Urena Lobata" 291
Foreign Economic Situation Surveys 293
A New Interlacing Machine 293
War Risk Insurance—Increase in Rate 294
Freight Rate on Burlap 295
Increase of Charge on E. B. R. Jute Traffic 295
Export Restrictions 295
Fibre Production and Trade Items 296
Monthly Notes on Progress of Schemes 300
Conversion Table ... ... Inside back cover

Bulletin No. 4, Vol. III.

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Indian Prices during June

UNCERTAINTY IN MARKET

LOOSE JUTE

THE market has been affected with a fair degree of uncertainty throughout June principally owing to the European war situation. As a result trading has been to some extent spasmodic and has at no period assumed wide proportion.

Opening quotations were as follows :—

(Indian)		Jat Rs.	as.	p.	District Rs.	as.	p.
Top	...	10	12	0	10	4	0
Middle	...	9	12	0	9	4	0
Bottom	...	8	12	0	8	4	0

Early in the month mills bought in limited quantities but withdrew from the market on sellers raising their prices. Business thereafter was slow with mills showing interest only in small lots of selected marks.

Reports on the condition of the new crop indicate that the outturn will be well above that of last season. Coupled with the uncertainty of trading conditions in future there was, therefore, little incentive for mills or shippers to enter the market on a large scale. Consequently the general tone became quiet. At the end of the month the market was dull and inactive. Prices on 29th June, 1940 were as follows :—

(Indian)		Jat Rs.	as.	p.	District Rs.	as.	p.
Top	...	10	0	0	9	8	0
Middle	...	9	0	0	8	8	0
Bottom	...	8	0	0	7	8	0

In the export section enquiry from overseas was desultory and the business transacted, negligible. The Government of Bengal in an effort to keep prices for old crop from falling entered the market as buyers of First Group marks and were reported to have purchased about 49,000 bales at prices ranging from Rs. 57/- to Rs. 59/- per bale. Despite this encouraging effort rates in the pucca bale market declined and at the end of the period Firsts were quoted at Rs. 54/- with sellers over.

JUTE FABRICS

Early in the month there was considerable bazar activity in the hessian section of the jute goods market. The opening rates were as follows :—

	June			July/Sept.			Oct./Dec.		
	Rs.	as.	p.	Rs.	as.	p.	Rs.	as.	p.
9 porters ...	11	4	0	11	4	0	11	0	0
11 porters ...	15	6	0	14	14	0	14	6	0

Inter-bazar trading and small covering business from overseas served for a few days to give confidence to dealers and a rise of about Re. 1/- for near position light weight hessians was recorded. Pressure to sell at the advance however soon had its effect on a market which had little real buying strength. This, coupled with the serious nature of the news from Europe and the almost complete withdrawal of overseas consuming interests caused a decline in rates which on June 18th were quoted at :—

	June			July/Sept.			Oct./Dec.		
	Rs.	as.	p.	Rs.	as.	p.	Rs.	as.	p.
9 porter ...	10	6	0	10	8	0	10	4	0
11 porter ...	14	14	0	14	11	0	14	2	0

Towards the close of the month it was announced that a proposal by the Indian Jute Mills Association had been accepted by the Government of Bengal whereby mills within the Association agreed to pay at certain rates on the basis of Indian Jat Middles for all purchases until the end of 1940.

They also agreed that member mills would not sell jute fabrics below certain rates.

This served to revive bazar interest to some extent but it succeeded neither in raising prices to the mills' minimum selling rates nor in attracting much attention from consuming markets, which remained dormant.

On the 29th June rates were as follows :—

	Ready			July/Sept.			Oct./Dec.		
	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
9 porters ...	11	0	0	11	1	0	11	0	0
11 porters ...	14	10	0	14	6	0	14	0	0

HEAVY GOODS

This section of the market was also quiet with little business passing. The low rates for standard sacking goods were of little interest to mills who were reported to have been practically out of the market during the month.

Rates for commonly used 'sacks' were as follows :—

	Ready			July/Sept.			Oct./Dec.		
	Rs.	as.	p.	Rs.	as.	p.	Rs.	as.	p.
June 1, 1940									
Heavy Cees ...	28	12	0	29	8	0	29	0	0
B. Twills	29	8	0	29	12	0	29	8	0
A. Twills	37	0	0	37	0	0	36	8	0
Cornsacks	30	4	0	30	12	0	30	8	0
June 15, 1940									
Heavy Cees ...	28	8	0	29	0	0	28	12	0
B. Twills	29	4	0	29	4	0	29	0	0
A. Twills	36	12	0	37	0	0	36	12	0
Cornsacks	31	0	0	31	4	0	31	0	0
June 29, 1940									
Heavy Cees ...	27	4	0	28	0	0	28	0	0
B. Twills	29	4	0	29	4	0	29	4	0
A. Twills	36	0	0	36	0	0	36	0	0
Cornsacks	31	0	0	31	4	0	31	0	0

PRODUCTION AND CONSUMPTION OF JUTE

RAW PRODUCE

According to the *Indian Trade Journal* **jute arrivals** into Calcutta and mills outside the Calcutta trade block (excluding road arrivals and arrivals into mills by boats) were as follows :—

From July 1, 1939 to 29th June, 1940 ... 9,932,000 bales.

From July 1, 1938 to 29th June, 1939 ... 8,862,000 bales.

Exports of raw jute from Calcutta and Chittagong from 1st July, 1939 to 8th June, 1940 and during the corresponding period a year ago were 3,073,000 bales and 3,866,000 bales respectively.

MANUFACTURED GOODS

Manufactures of jute goods during June, 1940 by the mills reporting to the Indian Jute Mills Association are given below :—

Sacking Bags (in 1,000s)	45,069	or	47,067	tons
Hessian Bags (,, ,,)	56,828	,,	12,600	,,
Sacking Cloth (in 1,000 yds.)	9,673	,,	3,918	,,
Hessian Cloth (,, ,, ,,)	128,554	,,	33,990	,,
Others			3,371	,,
Total			100,946	,,
Total during May, 1940 ...			113,702	,,

The *Indian Trade Journal* reports the following Exports of manufactured goods during the period from 1st January to 8th June.

	1940	1939
Sacking Bags (in 1000s) ...	213,291	194,420
Hessian Bags (,, ,,) ...	543,189	135,810
Sacking Cloth (in 1,000 yds.) ...	28,522	13,873
Hessian Cloth (,, ,, ,,) ...	731,462	527,915

The following are the **stocks of manufactured goods** (cloth and bags) as reported to the Indian Jute Mills Association by its members :—

	End of June		End of May	
	1940	1939	1940	1939
Sackings (lacs of yds.)	2,119	1,864	1,678	1,578
(tons)	90,460	77,398	70,682	65,830
Hessians (lacs of yds.)	2,343	4,504	2,875	4,704
(tons)	56,405	110,376	69,902	115,210

Index Number of Prices

CALCUTTA JUTE

(*Base: July, 1914 = 100*)

Year	Raw Jute (1)	Manufactured Jute (2)	Ratio % of (2) to (1) (3)
Average of 1914-18 ...	77	140	182
„ „ 1919-23 ...	100	142	142
„ „ 1924-28 ...	114	156	137
„ „ 1929-33 ...	59	88	149
„ „ 1934-38 ...	49	69	141
„ „ 1939 ...	80	102	128
Av. of Jan.—Aug., 1939 ...	70	80	114
September, „ ...	77	117	152
October, „ ...	76	126	166
November, „ ...	119	175	147
December, „ ...	130	172	132
January, 1940 ...	124	146	118
February, „ ...	130	130	100
March, „ ...	100	114	114
April, „ ...	99	111	112
May, „ ...	85	97	114
June, „ ...	80	94	118

May and June recorded further recession in Jute prices. The disparity between the raw and manufactured prices was again on the increase, showing thereby that prices of raw jute were declining faster than those manufactured goods.

Preliminary Jute Forecast 1940

THE following table has been compiled from the reports of the preliminary forecast of jute crop published by the Director of Agriculture, Bengal, on the 2nd, 3rd, 4th, 5th and the 6th July:—

District	Estimated area under jute		%Increase
	Last year* Acres.	This year Acres.	
24 Parganas	30,000	45,000	50·0
Nadia	57,800	80,000	39·0
Murshidabad	45,600	53,700	18·0
Jessore	77,500	1,08,900	40·6
Khulna	27,400	34,000	24·1
Burdwan	1,400	4,500	222·1
Midnapore	3,400	8,600	153·0
Hooghly	16,200	33,000	103·7
Howrah	3,200	7,600	137·5
Rajshahi	75,900	1,27,400	68·0
Dinajpur	71,000	1,49,700	110·9
Jalpaiguri	25,300	74,700	195·5
Darjeeling	800	900	12·5
Rangpur	3,10,000	3,68,000	18·8
Bogra	95,000	1,42,000	49·5
Pabna	80,800	1,38,200	71·1
Malda	27,100	35,000	29·2
Dacca	3,19,000	3,93,700	23·4
Mymensingh	6,90,600	8,00,000	15·8
Faridpur	2,05,000	2,74,500	33·9
Bakarganj	49,000	78,000	59·2
Chittagong	200	250	25·0
Tippera	2,40,000	3,42,500	42·7
Noakhali	51,600	90,700	75·8
TOTAL FOR BENGAL ...	25,03,800	33,90,850	35·4
Cooch Behar	32,800	45,600	39·1
Tippera State	13,000	18,000	38·5
TOTAL INCLUDING COOCH BIHAR AND TIPPERA STATE	25,49,600	34,54,450	35·5
Bihar	2,65,500	2,82,200	6·2
Orrissa	22,500	28,400	26·3
Assam	3,23,300	3,47,700	7·4
GRAND TOTAL ...	31,60,900	41,12,750	30·1

*Revised since last final forecast.

Jute and Fabrics

FIXATION OF MINIMUM PRICES

DECISION OF INDIAN JUTE MILLS ASSOCIATION

AN ASSOCIATED PRESS message of June 27 states that the Committee of the Indian Jute Mills Association held a special meeting to discuss the present market position and to devise methods by which they could best assist the market. After consultations with the Government of Bengal, the Committee have decided strongly and unanimously to recommend to members that they should purchase raw jute at their usual rate of buying but at prices which will not be below the following per maund :—

Indian District (middles) Rs. 8/-
(bottoms) Rs. 7/-

Indian Jat (middles) Rs. 8/8/-
(bottoms) Rs. 7/8/-

European Packed (middles) Rs. 9/-
(bottoms) Rs. 8/-

The Committee also unanimously recommended that standard fabrics should not be sold at prices below :—

40″ 8 oz. cloth Rs. 12/- per 100 yds.

40″ 10 oz. cloth and 40″ 10½ oz. cloth Rs. 15/8/- per 100 yds., this to be regarded as the basis.

Heavy Cees and B. Twills Rs. 32/- per 100 bags.

As regards fabrics other than standard, members have been requested not to sell these at prices below such as may be determined in strict relation to the above mentioned prices, for standard goods.

This position will obtain up the end of December of this year when the Committee have undertaken to place further proposals before Government designed to meet the situation as it then exists, although it may be necessary in the interim to consult with Government regarding these prices should circumstances necessitate.

Taking into consideration the stock of figures of the mills for 40" inches 8 oz. cloth the Committee unanimously recommended that until further notice, members should make no sales of this cloth either with or without guaranteed shipments. Further, the Committee are at one in appealing to members to afford all possible facilities to their bazar buyers in the present difficult position by such action as buying backgoods or by the interchange of one fabric for another or by such other means as mills might by arrangement with their buyers, consider best in the circumstances.

GOVT. ADVICE TO GROWERS

A Bengal Government Press-Note issued on July 6, on the same subject states that in order to secure for the growers of jute as high a price as can be obtained, and to ensure that as much as possible of this year's very large crop is absorbed by the trade, Government have made an arrangement with the Indian Jute Mills Association who are by far the largest body of consumers of raw jute in the world, whereby the Association has agreed to take steps to ensure that all its members will buy raw jute at their usual rates of buying at prices which will not at any time fall below a certain level (as mentioned earlier in this issue).

These prices are the lowest prices that mills will pay up to the end of December 1940. They are not fixed prices or maximum prices. Mills will buy at the market rates when those rates are higher than these prices. Before the end of

December the situation will be reviewed and arrangements made regarding prices for the remainder of the crop.

Government have already informed growers that up to 22-6-40, mills had already bought over 40 lacks of maunds of jute at prices which averaged over Rs. 11/- per maund for equal quantities of middles add bottoms. What do these facts mean to the growers ? They mean that at the beginning of the season, at least for the months of July and August growers should receive at least Rs. 9/- per maund for any good quality unassorted jute they sell and for which the mills have already paid the middlemen more than Rs. 11/- per maund. They mean also that up to the end of December growers who sell gradually and with caution can confidently expect from the middlemen about Rs. 7-4 per maund for good quality dry jute. Growers who accept substantially less than this price are defeating their own interests and injuring those of their neighbours. Government wish it to be clearly understood that there is no reason whatever for any panic and that persons who out of fear or ignorance are being persuaded to sell good dry jute at prices round about Rs. 4/- to Rs. 5/- are being swindled. It is the duty of every grower to refuse such low prices and to see that his neighbours do the same. Hasty selling of large quantities at low prices will cause serious loss to everyone, except the middlemen.

Government have done their part to secure what they are convinced are the best terms obtainable for all concerned at the present time. The trade has shown a desire to co-operate. It is now for growers to do their part to make the arrangement as effective as possible. Growers can do this in two ways. First, they must do everything they can to prevent unnecessarily large quantities of jute from being thrown on to the market at one tlme. Growers must sell evenly throughout the season. This is extremely important. Neither Government nor the mills nor any other body can prevent a disastrous collapse of prices if a large portion of this year's very big crop is suddenly dumped on the market. Growers are well aware that when the market is glutted prices fall very heavily. Efforts will be made by middlemen to frighten growers into selling at low prices. These efforts must be resisted and must be at once brought to the notice of the local authorities who will take steps to deal with them. Growers should consider the minimum prices which mills have agreed to pay and they can then calculate what is the lowest price that they should receive for their unassorted jute of good quality. They should not sell below that price. If sales by growers are properly spread out, it is likely that these bottom prices will not be reached and that growers will get more.

The second way in which growers can help is by taking care that the jute which they offer for sale is clean, well-retted and sound, free from dirt and water or any other kind of adulteration. Good prices cannot be paid for dirty and adulterated jute and the extra trouble required to produce clean dry jute, free from stick and hunks will be amply rewarded by better prices.

Government are hopeful that if all concerned will do their best to co-operate to make this arrangement effective the prices which growers will obtain for their jute this season will be satisfactory despite the large crop that is expected and and despite the great uncertainty and loss of foreign markets in Europe which the war has brought about. Government themselves are watching the situation closely and carefully and will take every possible step to maintain prices at the most satisfactory level which circumstances warrant.

Working Hours to be Reduced

INDIAN JUTE MILLS

EFFECT ON CONSUMPTION OF RAW MATERIAL

THE working hours of Indian Jute Mills are to be reduced by nine hours a week from August 19.

This decision, according to the *Statesman* of July 17, was unanimously reached at a special meeting of the Indian Jute Mills Association held in Calcutta on July 16.

The mills are at present working 54 hours a week.

The meeting was called to consider a resolution to reduce the working hours of jute mills to 45 hours a week with effect from August 19.

The Chairman of the Association, Mr. W. A. M. Walker, briefly reviewed the considerations which led the Committee to recommend a reduction of the working hours by nine hours a week.

He pointed out that the large Government orders for sand bags would be completed by the end of this month,and there was no sign that further orders of such magnitude could be expected. The Committee who had been all along watching and considering the position very closely, came to the decision that the question of working hours would require to be reviewed immediately after the June stock figures became available.

The working hours which, Mr. Walker said, had hitherto been 60 hours per week, were reduced to 54 hours per week as from April 8. Since the reduction of working hours had come into effect, there had been a decrease of hessian stock of not less than 12 crores of yards whilst the heavy goods stock had risen, since the end of March, by 3·59 crores of yards.

THE LOOMAGE

It was found that one-sixth of the total loomage of the Association was engaged in the production of sandbags. It was also known that not less than 15,000 tons of manufactured goods destined for the United Kingdom alone had been carried forward by shippers at the end of June owing to lack of shipping space. All these goods were included in the Association stock figures.

Further orders for sandbags of the same magnitude as previous ones, Mr. Walker explained, could not naturally be expected (the Controller of Purchases had been informed) but it was anticipated that there would still be orders for other materials forthcoming. In these circumstances, the Committee came to the conclusion that a reduction of nine hours a week would be the most reasonable and justifiable recommendation for them to make.

Mr. Walker added that consideration had also been given to the labour position and the matter had been discussed with the Minister for Commerce and Labour, Government of Bengal and opinion indicated that the transition to 45 hours per week could be effected smoothly.

The resolution to reduce the working hours to 45 a week was unanimously adopted.

Jute Orders from Britain

It is understood, according to the "Statesman" of June 28, that the Controller of Purchase (Jute) has received orders from His Majesty's Government and the Government of India during the past two weeks, amounting in value to over Rs. 50,00,000.

These orders include the following items:—20 lakhs of hessian bags; 30 lakhs yards of jute and cotton canvas; 10 lakhs yards of tossa jute canvas; 7 crores yards of hessian strips; 44 lakhs of sacking; and other miscellaneous items.

Nearly all these goods are for early delivery.

According to *Capital* the reduction amounts to over sixteen per cent. of the working hours and as it will probably be heavy goods production that will be reduced and narrow hessian will be manufactured in place of sacking, the reduction in the consumption of jute will be considerably more. On the proportion of the reduction in hours the demand for jute will be less by some twelve lakhs of bales.

Old Jute Crop

GOVERNMENT BUY ABOUT 2·45 LACS OF MAUNDS

A Bengal Government Press-Note issued in June announced that they had completed their arrangements for purchase of Ready L.G.A. Firsts (old crop) pucca bales and had appointed as their purchasing agents, Messrs. Chhaganmull Tolaram of 133, Canning Street, Calcutta, a leading firm of jute balers who had also undertaken the storage of jute purchased on behalf of Government.

The agents have been authorised to deal only through the following firms of brokers :—

Messrs. Landale & Morgan,
,, J. Thomas & Co.,
,, F. C. Pallachi & Co.,
,, A. M. Mair & Co.,
,, Hathimall Summarmall.
,, Fulchand Saraogi, and
,, G. Das & Co,, Ltd.

According to Messrs. Chhaganmull Tolaram, the purchasing agents of the Bengal Government, the latter have upto July 16, bought 48,948 pucca bales, which is equal to about 2·45 lakhs in maunds, at the following rates :

3,498 bales @ Rs. 57 per bale.
21,970 ,, ,, ,, 58 ,, ,,
23,480 ,, ,, ,, 59 ,, ,,

Total 48,948 bales.

Loss of Jute Markets Due to War

"CAPITAL" ON PROSPECTS FACING INDUSTRY

CAPITAL of June 27 has an interesting review on prospects before the jute industry in relation to the position brought about by the present war in Europe, extracts from which are reproduced below :—

At the outbreak of war the industry speedily reconciled itself to the loss of markets in enemy countries but it was hoped that, apart from the inevitable shipping and exchange difficulties, business. with neutral countries on the Continent of Europe as well as with our Allies would continue, and that it would even be possible to capture some of the trade which our enemies had previously done with countries which the war had not up to then affected. These hopes have proved illusory. One after another of the neutrals has come under the domination of the Nazis, Italy has joined our enemies and now our Ally has gone under, with the result that practically the whole of Europe is shut off. Spain, Portugal, the Balkans and Russia remain. The first two are not of much importance as consumers of either jute or gunnies. Spain gets separate mention in the official list as a destination of raw jute shipments, but neither Spain nor Portugal appears in the lists for manufacturers, though the African colonies of the latter are large buyers. Of the Balkan countries only Turkey figures in the official lists for jute manufacturers. Russia appears as a buyer of raw jute but not to any great extent, and it is probable that the Soviets drew the bulk of their supplies of bags from Germany and Czechoslovakia before the war. Theoretically it should still be possible, while we command the Mediterranean, to send supplies to both the Balkans and Russia but considerable difficulties are likely to be met with and strict control will be observed to ensure that such supplies do not find their way to enemy countries.

So far as manufactures are concerned, the probable loss of trade is not serious and might easily be made up by increased demand from other countries such as the United States, where war demand must result in increased industrial activity and the Argentine whose export trade in wheat and beef is certain to increase. Official figures for individual countries for the year ending 31st March are not available, as only summaries are now published but for the two preceding years, the combined exports to the countries now shut off did not exceed 3½ per cent. of the total exports. In 1937-38 the exports of hessian and gunny bags to these countries formed 3·4 and 2·5 per cent. respectively of the total exports and in 1938-39 the corresponding percentages were 2·5 and 3·2. As has been said, there is a possibility, if not a probability, that this quantity can be balanced by increased exports to other countries, especially if prices are kept at attractive and reasonable levels. Not only so, but a definite effort should be made to stimulate the use of jute goods wherever possible and more particularly, in those countries where general trade has been stimulated by the war.

Jute in U. P.

According to "Capital" of July 11, the Chambers of Commerce in U. P. have taken up with the Government of that province the question of the encouragement of jute growing there and the Government have asked the Department of Agriculture to explain the nature of steps that it proposes to take for this purpose.

The Cawnpore mills have for some time been pressing the Government to organise schemes for instructing the Growers in methods of improving the quality of their crops and increasing the yield.

INDIA'S LOSS OF MARKETS

ENQUIRY ABOUT ALTERANATIVE MARKETS IN AMERICA

Recent German and Italian acts of aggression in Europe have resulted in the temporary closure to India of all the most Important continental markets for Indian produce, and general concern is being felt as to the effect of this on Indian economy, states a Press-Note issued by the Central Government from Simla, dated July 3.

The urgency of the matter is such that the Government of India have decided to take advantage of the fact that Sir David Meek is leaving immediately to rejoin his post of Indian Trade Commissioner in London and to ask him to break his journey in the United States of America for the purpose of conducting preliminary enquiries as to the prospects of finding alternative markets in North and South America.

Dr. Gregory, Economic Adviser to the Government of India, is also being deputed to take part in these investigations with which Mr. H. S. Malik, Indian Trade Commissioner in New york, will be associated. The Government hope to be able to place the first results of the enquiry before the Export Advisory Council at its next meeting which is due to be held in Bombay early in September.

Deterioration of Jute

WAYS OF POSSIBLE PROTECTION OF FIBRE

By Prof. S. G. Barker, with acknowledgement to the Textile Institute of Bradford.

IN a paper read at the Textile Institute in Bradford, recently, prof. S. G. Barker said it would seem that a very distinct bias against jute has been created by the fact that sandbags which have been utilised for revetments throughout the country, have rotted within three months, and people have raised the question as to whether there was a more durable textile fibre for the purpose.

Dr. Thaysen, of the Chemical Research Laboratory, has investigated this question, and has very kindly placed at my disposal, facts and figures which he has determined on this issue. In the first place, rot being a living organism should be inhibited by the presence of a poison, and in the second place, since a high moisture content is essential for rot to take place then it might be possible to protect the fibre by some water-repellent medium.

There are, therefore, two ways in which the fibre should be possible of protection. (1) Shielding. (2) By the incorporation of some antiseptic or toxic material. Dr. Thaysen protected material with glass aluminium, rubber, and vaseline, and in his criticism his results present the following data.

SHIELDING OF FABRICS

In soil exposures it is shown that the rate of deterioration is inversely proportional to the weight of the fabric, the heavier the fabric the longer would it retain the essential part of its tensile strength. Again, closely woven material is more resistant than loosely woven or light material of the same fibre. This may be due to the protection afforded by the surface hairs against the penetration of moisture, but subsequent experiment shows that shielding is the main issue. Shielding of a fabric by rubber, aluminium or glass makes the protected material retain its tensile strength longer on exposure in soil or immersed in seawater than unshielded material of identical description. The following results are typical :—

Nature of Shielding	*Number of days' exposure until complete breakdown when torn by hand*
Nil	28
Glass	119
Aluminium	105
Rubber	105
Vaseline	32

Protection due to shielding is not due to elimination of moisture, but is due to absence of contact (direct) between the active source of infection and the shielded fabric. Intimate contact between cellulose-digesting mico-organisms and the material they are to attack is essential. If such direct contact is prevented by the introduction of an inert substance between the contaminated cellulose debris of the soil and the fabric to be attacked, infection can occur only through free cellulose decomposing organisms present in soil waters which may seep into the fabric with the moisture. The infection of shielded fabrics thus progresses more slowly and particularly one should note that a large amount of growth has to establish itself on the fibres before a noticeable loss of tensile strength can be recorded. If one places a piece of fabric in soil unprotected, then after two weeks, intimate contact is noted by the adherence of the soil to the fabric. An effectively protected fabric will not have adhering soil matter after weeks of exposure. Thus intimate contact of soil and fabric is essential. Variation of this often leads to entirely erroneous results in comparative tests. It is interesting to note that rubber latex and other types of pure rubber compositions, waxes, linseed oil and aluminium soaps tested in no case afforded anything more than temporary protection of the fabric. Their useful application is thus limited.

RELATIVE RESISTANCE TO DECAY

In jute fibres which are surrounded by parenchymatous tissue, sufficiently coherent and continuous to retard the action of such drastic swelling agents as strong alkalis, a different type of shielding was possible and in order to test whether or not this was the case as also to get some idea of the comparative resistance to decay of fabrics made of different textile fibres, an experiment was performed where one hemp fabric, two flax fabrics and one cotton fabric were exposed under identical conditions in active garden soil. The fabrics were not, however, of the same weight or structure, but by assuming the deterioration would be inversely proportional to the weight of the fabric, and expressing this weight as the strength of the dew-retted flax sample as basic unit interesting figures were obtained.

These are reproduced below :—

Type of Fabric and weight per 100 square cm.		*Number of days for loss of strength*	*Calculated number of days for deterioration to be reached of dew-retted flax weight*
Dew-retted Flax	4·42 gms.	20	20
Water-retted Flax	4·42 ,,	20	20
Hemp	4·42 ,,	21	20
Jute	7·47 ,,	35	21
Cotton ...	1·78 ,,	14	35

It will be seen that flax, hemp and jute rotted at almost indentical rates, whilst cotton deteriorated more slowly. The latter conclusion is made from a much lighter fabric than the others and, therefore, its significance is somewhat impaired. The results do not indicate that the presence of lignin in the jute, nor its paranchymatous sheath on the fibres delays the rotting of the fibre materially beyond that of pure cellulose.

The above results lead us to the conclusion that no matter which textile fibre had been used, either expensive or otherwise, the development of rot would have been the same and, in point of fact, jute has actually been superior to most others whilst at the same time it was cheap. For

(*Continued at bottom of page 260*)

Jute And Sisal Industries

PAPER READ BEFORE ROYAL EMPIRE SOCIETY

A brief summary of a paper on "Empire Fibres" read by Mr. Alfred Wigglesworth in April before a joint-meeting of the East India Association and Royal Central Asian Society at the Royal Empire Society, London, appeared in the last issue of the *Bulletin.* But, as justice could not be done to it then, the paper being very informative, more liberal extracts are given below in this issue for the benefit of the *Bulletin's* readers:—

PRICE FLUCTUATIONS

Jute is subject to wide price fluctuations. These are mainly due to irregular demand and uncertainty of yield of fibre, since seasons and rainfall vary considerably. An attempt to regulate planting is now being made by Govern-

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(*Continued from page 259*)

the temporary protection which it has afforded over the initial period of the War, it is therefore obvious that nothing better could have been done, but now that a more permanent state of affairs seems to be established, the question arises as to efficiency and efficacy of various antiseptics which may be used.

The first point at issue is the relative value of these media, it may be said that creosote for timber as set out in British Standard Specification No. 144/1936, placed upon the fibre to the extent of 25% of its weight gives a very efficient proof, whilst if an organic copper salt is also added the efficiency is greatly enhanced. On the other hand Thaysen has conducted some comparative tests with various media which are interesting. Before discussing his table one should point out that climatic exposure such as is encountered in the case of sandbags is something quite unique for jute or any other fibre since the agencies to which it is submitted in exposure are comparatively unimportant during manufacture, transit and normal use, or storage as bags or sacks.

(*To be continued*).

ment. The effort is not without success, the production of jute after years of depression having receded from 11,000,000 bales at the peak to 6,000,000 in 1932, thus helping to maintain a measure of price stability. But it must never be forgotten that a low price of raw material stimulates demand. The rise to over £60/- per ton in 1925 led directly to the substitution of paper bags for cement, so the jute trade permanently forfeited a large and constant consumption which seriously dislocated the relations between supply and demand for a long period. It is calculated that the loss amounted to between 15,000,000 and 20,000,000 bags a year. There is danger that history may repeat itself in so far as today's high price is out of relation with many other fibres. That a cessation of the purchase of sandbags for army or air raid precautions may have a drastic effect on prices is borne out by the recent fall in values on the Calcutta market, one day in January last, of £7 per ton in four hour's time, merely because Government announced that they would extend the delivery period of existing contracts by two months, thus checking the demand for raw material in anticipation of further orders for sandbags for delivery after April.

India, having a monopoly of jute, has delayed too long the start of research, but this is now being remedied, a department having been organised in Calcutta within the last few years in charge of Dr. S. G. Barker, who has published a valuable treatise on his findings. Though it is not easy to increase quantity and to improve quality concurrently, progress has been made in the direction of a heavier crop. The second type of research seeks to extend the uses of jute. For the moment, demand being centralised on sandbags, there is no immediate urgency to seek new uses, but the problem may become acute after the war.

The jute crop is subject to such vicissitudes of both supply and demand that very careful investigation of all features incident to production and consumption must be available if success is to attend attempts to control it, but the most strenuous efforts of the department which organises the jute forecast have seldom been able to approach reasonable accuracy of returns. True, jute is an annual crop, and its sowing is easier to control than, say, the planting of rubber, tea, coffee, sisal or manila, all of which take years to mature and continue to produce for several years whether harvested or not. Stability of price should be the aim. Such an effort can scarcely be organised by trade associations without the friendly co-operation of Government working through these Associations, and it may well prove difficult to get the necessary support from the Indian Government, which has to walk warily when interfering with national effort, especially where it concerns agriculture.

Foreign competition to grow jute is a most unlikely contingency, as no country which has made the attempt has possessed the requisites of climate, soil, water supply and skilled labour, which in Bengal is supplied gratis by the family of the grower.

The Dutch have produced in the Netherlands East Indies serviceable fibre from *Hibiscus Sabdariffa,* commonly called *Roselli,* which spins satisfactorily on jute machinery, but being a plantation crop, its cost far exceeds that of Bengal jute. The Belgians are growing in the Congo a substitute fibre, *Urena Lobata,* but again its cost is relatively high. Brazil has also produced Hibiscus fibre similar to jute. It is marketed locally, thus displacing Calcutta imports, which are subject to a heavy import tariff. This fibre is most unlikely to compete with Indian jute in foreign markets.

East African rainfall and general climatic conditions are quite unsuitable for jute, and though the labour is cheap it could not compete with the Indian native industry. The West African climate is more favourable but wages are comparatively high, and small scale experiments in jute cultivation in West Africa, where rainfall is abundant, met with scant success on account of high cost, so that it may safely be assumed that Bengal, the cradle of the jute industry, will retain its monopoly. Much remains to be done in grading and packing the raw material, so as to ensure greater regularity of quality and the standardisation of grades.

Each district possesses its own particular merit or demerit, and the practice of mixing the products of different districts should be abandoned so that spinners could know the exact origin of the fibre and thus be able to pick and choose with care the district and grade requisite for their particular class of work. In general it might be profitable to export the best grades so that the incidence of freight could be reduced ; Europe and America being mainly concerned with the manufacture of high-class goods require fibre of good quality.

Many of the mills in Calcutta are now owned and operated by wealthy Indian firms whose policy is not always in line with that of the Calcutta Jute Fabrics Shippers' Association which controls the manufacture. A recent period of depression shortly before the war caused a heavy accumulation of stocks of manufactured goods, to curb which the British-owned mills sealed up a number of looms. Unfortunately this policy was not supported by their Indian rivals, who continued to work at full speed. The controversy could only be solved through pressure of Government to bring the two parties into line, but not before dislocation of the world's markets had been caused by uncontrolled full production of of all the mills, thus precipitating a crisis both in the goods and the raw material markets.

Future demand for goods may vastly change, and the extent to which jute sacks will continue to be used to move crops will obviously affect the demand for jute.

Mr. J. C. Eastham, in his paper for the British Association of Science meeting at Dundee last year, on "Economic problems of the Jute Industry," indicated that the maximum demand Calcutta has ever known for its goods could be met with a third of the existing machinery. Regarding the world industry, the excess capacity which exists is primarily the result of a policy pursued over a number of years by an important section of the industry, but he is against restriction on the grounds that the growth of new capacity in unexpected places might upset calculations and indicates that unit costs, including overheads, are lowest when a mill is working 100-120 hours a week.

The following table indicates the growth of India's jute industry during the last five years :—

Exports of Jute, Raw and Manufactured, from India.

	Raw	*Manufactured*	*Total*
	tons.	tons.	tons
1935	795,000	766,000	1,561,000
1936	769,000	960,000	1,729,000
1937	830,000	1,051,000	1,881,000
1938	657,000	963,000	1,620,000
1939	585,000	1,021,000	1,606,000

INDIAN SUNN HEMP

Another Indian bast fibre of comparatively small importance, known to commerce as Sunn Hemp, is derived from *Crotalaria juncea*, a leguminous plant, which is sown widely in India to provide green manure. Only a small part of the crop is harvested for the production of fibre and the rest is ploughed up. The plant is widespread, each of the Provinces producing fibre so different in appearance as to give the erroneous impression of being the product of different species.

Since Russian hemp has ceased to be exported, Indian Sunn is used as a substitute, its strength and durability being comparable to Russian and superior to jute. It is sold under the name of the district in which it is grown, *Bengal, Benares, Jubbulpore, Deoghad, Itarsi, Seoni* or *Sewnee* and *Philibhet*. The Madras coast produces *Godavery*. Grading, though somewhat improved during recent years, continues too irregular to secure full advantages in competition with other fibres, and the export is practically stationary, being mainly to this country and to the European Continent.

Some years ago an experiment was made in Portuguese East Africa with the cultivation of Sunn Hemp (*Crotalaria juncea*), but while the product was superior to that of India —being prepared for machinery instead of hand labour—its cost far exceeded that of Indian varieties, and the scheme was eventually abandoned as unprofitable.

The extent of the Indian crop varies considerably, an average for a number of years being approximately 110,000 bales per annum (about 200,000 tons). Of this 75 per cent. is shipped from Calcutta and the remainder from Bombay and the Madras Coast. It is taken by the various countries in approximately the following percentages : United Kingdom, 33 ; Belgium, 29 ; Germany , 9 ; Greece, 9 ; Scandinavia, 7 ; France, 6 ; Italy, 3 ; America, 1 ; Portugal, 1 ; other countries, 2.

SISAL IN EAST AFRICA

Until 1893 Mexico had a monpoly of sisal fibre, its production increasing rapidly to meet the demand created by the use in the U. S. A. of the automatic reaper and binder for harvesting grain crops. In that year plants which had been introduced experimentally into Florida by Dr. Trelano were exported to that part of East Africa which was then in German hands. A few years later plants were brought over the border into Kenya. In East Africa it was found that the cultivation throve, not only at the coast, but also in highland areas up to 6,000 and 7,000 ft. altitude. In Kenya there are many plantations hundreds of miles from the coast and at altitudes of 3,000 to 6,000 feet. Above that height night temperature is too low to grow sisal successfully, but the coastal area of Tanga following inland through the Usumbara valley rapidly expanded as the centre of production and it has continued to maintain its lead. Since 1918 great headway has been made in East Africa, especially in Tanganyika.

Sisal differs materially from Jute, in so far as the latter matures within fourteen to sixteen weeks of its sowing, whereas the Agave plant, which produces sisal, takes three to four years before the first leaf can be cut. Jute is said to yield an average profit of 130 rupees an acre, but no such returns have been realised from sisal during recent years. Again, while jute is entirely a peasant crop, sisal is a plantation industry, highly organised and requiring large capital and direction by trained Europeans.

Java began the cultivation of sisal about 1900, but East Africa now tops the list for volume of exports.

The following table indicates the expansion of the industry over the last ten years :—

Export (in Tons)

	Tanganyika	Kenya
1930	48,500	16,000
1931	54,700	16,000
1932	59,700	15,200
1933	69,500	20,000
1934	72,000	24,000
1935	82,300	32,700
1936	80,600	36,200
1937	89,500	32,000
1938	101,400	29,800
1939	93,500	29,900

The industry cannot be profitably developed unless land is cultivated in large areas for each unit of machinery—being composed of a decorticator, or fibre stripper, bushing plant, baling press, and a power engine with building, stores and drying ground—may cost some £12,000 to £20,000. This will require an area of about 5,000 planted acres to keep the machinery engaged all the year round, producing on the average some 1,200 to 1,500 tons of dried fibre of a value at today's price, of £30,000 to £35,000. To control this plant two experienced European engineers are required, several field men and a manager, whose salaries total a substantial sum, justifying employing their services on two or more units of a capacity of 3,000 to 4,000 tons of fibre, the larger figure requiring 10,000 to 15,000 planted acres and surplus land to renew exhausted areas. Since the leaf contains only 3 to 4 per cent. of extractable fibre, the production of, say, 3,000 tons of fibre entails the cutting and transport for distances up to five or ten miles of some 100,000 tons of leaf each year. There are few industries where the tight control of expenditure plays so great a part in the returns.

While the sisal industry in East Africa works on a small scale of units, two planters in the Netherlands East Indies have adopted the practice of huge batteries of "decorticators" up to 15 or 20 in one factory, thus the sisal industry in that area is controlled mainly by large producers, one producing about half the exports another, a British concern, some 15,000 tons, while less than a dozen smaller concerns produce the balance, totalling about 80,000 tons.

As a rule the plantation labour in East Africa is partly residential but it is mainly under six months' contract. Occasionally the men come from far afield ; Rhodesia, over 1,000 miles distant, sends quite a quota of labour to Tanganyika Territory. It has been found that the experience gained in the field work is utilised to introduce improvements on their own primitive methods of agriculture. In this way the planter helps the Government agricultural schools. Nearly all natives possess their own "shambas," or farm, and resort thence each season to sow or plant crops for the use of their family. This helps to maintain tribal organisation, and, although it tends to make labour supply inconstant, it retains the natives' independence. There are at present some 300,000 natives in Tanganyika alone who perform no work of any kind.

TRADE ORGANISATION

The East African sisal industry has gradually evolved a controlling organisation which is now financed by a cess of 3s-6d. per ton of export. Kenya has its Association in Nairobi, while Tanganyika has its central association branches in Dar-es-Salaam and Lindi, these three holding a joint meeting occasionally in Tanga, the main producing centre of the industry. By means of a Research Station at Mlingano, behind Tanga, experiments are constantly being carried out in plant breeding, and in a study of comparative methods of planting. Plant diseases are constantly investigated. Fibre content of the leaf is strictly watched, as here is the crux of production. The hope of breeding a better yielder is ever present, either by crossing, by plant selection, or by breeding from seed.

The London Sisal Growers' Association centralises control of the industry, much of the recent capital having been raised in London. During the last few years the Experimental Station at Lambeg, Northern Ireland, has been investigating means of extending the uses of sisal, following on work initiated by the Imperial Institute some years ago, when tests made at Southend pier exploded an old prejudice that sisal was ill-suited for marine ropes. The war has afforded an opportuniny of applying this finding on a large practical scale, as it has been found expedient to curtail the imports of Maniia fibre, displacing this with a mixture of 333 per cent. sisal in 2nd and 3rd grade rope and 25 per cent. in

1st grade. This change should make sisal less dependent on the vagaries of demand for fibre for binder twine and should help to adjust the balance between supply and demand. Stable prices are most necessary if an industry is to avoid periods of depressed prices, which throw losses on producers and thus disarrange the normal davelopment to the detriment of all concerned, and this is the aim of the Association.

All the same, although over the last twenty years prices have fluctuated between £ 13 and £ 52 per ton, the production has rapidly increased, and consumption has kept pace without undue accumulation of stocks. But Africa has pushed Mexico into the back ground, Mexican exports having declined from about 200,000 tons in 1916 to 90,000 or 100,000 tons in 1939.

Lambeg has extended the field of research by joint work between the rubber and sisal interests, and valuable results have accrued.* Sisal for sacking, for carpets of excellent durability, for mattress filling, for road beds, plastics, cushions after rubberising sisal kraft, and other uses, all contribute to extend consumption. Various experiments have been made to soften sisal to permit spinning into finer yarns for weaving sackcloth and for finer ply twines. It may be gathered that steady progress is being made all along the line, thanks to the far-sightedness of those engaged in the industry, who at an early stage have engaged in profitable research work, whose fruit will certainly mature in course of time. In short, it may be claimed that the East African sisal industry is well organised and holds promise of steady progress in future. Africa may indeed come to be the world's main supplier of so-called hard fibres, with a steadily expanding production.

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* The Board of Trustees for Sisal Research, appointed by the Colonial Office, under whose control the research at Lambeg, Northern Ireland, was conducted, ceased to exist last year. Its functions were then transferred to the Sisal Growers' Association which, with the approach of the Colonial Office, has now assumed the responsibility for research.

Sisal Industy

PROSPECTS IN BENGAL

"I Hope Bengal would realise the necessity of supplying her own rope mills with sisal produced by herself and perhaps later on her jute mills with a fibre useful for canvas and sugar bag making. I may definitely state that no industry holds out so much prospect as sisal industry in certain districts in Bengal."

These observations were made by Mr. J. K. Sirkar, F. R. H. S., F. R. S. A. (London) late fibre expert of the Governments of the Punjab and Bombay, in course of a lecture on "Fibre Industry and its possibilities in Bengal" at the Commercial Museum Hall, College Street Market on July 7, under the auspices of the Commercial Museum of the Calcutta Corporation.

Stressing on the vegetable resources of Bengal such as seed hair found in the seed pods of cotton and kapock, stem fibres and leaf fibres, the lecturer observed that Bengal which could at one time produce fine textile materials was today dependent on outside supplies of raw cotton to keep her mills going in as much Bengal did not grow long staple cotton. Mr. Sircar hoped that the Bengal Agricultural Department and the Bengal Cotton Mills Owners' Association woul jointly undertake an experiment on a commercial scale to grow it.

Referring to flax, Mr. Sircar regretted that while in Europe and America the plant was grown for its fibre for different fabrics, in India it was simply grown to yield the oil seed. It has been established, he said, that flax useful for coarser grades of manufactures could be easily produced in North Bengal.

Next to flax, the lecturer mentioned the "Kankura" or "Riha" fibre which was available in some districts of Bengal and Assam. Japanese hosiery and dress materials, gas mantles, the famous trench hosiery were being manufactured from this fibre alone or worked up in combination with cotton, wool, silk etc.

SISAL HEMP PLANTING

Mr. Sircar then dealt with a very important fibre planting industry which offered unique opportunity to the districts of Midnapore, Birbhum, part of Bankura, Burdwan, the Chittagong Hills, and land possessing similar soil and other conditions. Mr. Sircar referred to sisal hemp planting and was glad to find that a good deal of attention was being paid to it by governments and businessmen elsewhere. While the cost of extraction of the fibre was Rs. 100 a ton, the selling price at Calcutta was Rs. 260 a ton. Mr. Sircar further said that although a capital of a lakh and fifty thousand would be needed to run a big show (with a return of over 40 per cent) for small plantations consisting of 100 to 200 acres with a Raspador machine, the capital requirement would be 5 to 10 thousand of rupees.

The Fibre-Agaves

ECONOMIC AND CULTURAL CONSIDERATIONS

VII—FIBRE EXTRACTION, GRADING AND PACKING

(Continued from the last issue of the Bulletin)

IN the early times of fibre extraction raspadors were used. These are decorticators, single wheel-machines, where the wheel revolves rapidly in a case, with projections on its circumference, and a smooth metal surface. The workman puts the leaf into the raspador first from one side and then from the other so that the fibres remain. This machine was a great advance on the old process of hand scraping.

Nowadays on the big plantations completely automatic machines are used. The leaves on arrival at the factory are placed on endless-chain carriers, which convey them to the specially constructed decorticators, where they are drawn through two narrow passages, each bounded by a rapidly revolving solid wheel, with projections on its circumference and a smoth metal surface. The two wheels are on opposite sides of the machine, and revolve in opposite directions. In its passage between these wheels and the metal surfaces each leaf is scraped and the soft tissues removed, first along one half and then along the other. The fibres are washed immediately after each scraping process by a strong jet of water, which effectively removes the cortical tissues. This water containing bits of fibre and pulp, is then led in channels from the machines.

Australian Trade Commissioner for India

The Australian Commonwealth Government have set up an office for its Trade Commissioner for India in Calcutta since July 1. Mr. H. Roy Gollan is the Commissioner and his office is situated at 2, Fairlie Place.

The fibre, on passing from the decorticators, is placed in centrifugal machines, where it is further washed by means of a jet of water which lays on the fibre for three minutes after the machine has been set in motion. The machines continue running for six minutes after the jets of water have been stopped. This removes excess of water from the fibre.

On completion of the Washing process, the fibre is dried in large drying chambers through which steam pipes pass. Each drying chamber is also provided with a fan for the purpose of keeping the dry air in circulation.

In the dry, hot countries the fibres are mostly dried in the open air exposed to the sun, this having a good bleaching effect on the fibres.

The dried fibres are then beaten by hand labour on wooden bars supported about one metre above the ground or brushed by brushing machines constructed like the single-wheel decorticators having, in place of the projections, brushes on their circumference. These operations free the fibres from the remnants of cellular tissue adhering.

The fibre is then graded into three classes according to length, No. I class comprising lengths over 1 metre, No. II class comprising fibres of between 75 and 100 centimetres, and No. III class those of 50 to 75 centimetres.

Besides these there exists another class known as "tow." This contains short ends produced in the process of trimming the tufts of fibres during the grading operation. In this class is also graded the fibre cleaned from the bagasse.

The fibres ready for delivery to the trade are pressed into bales, contating 400 pounds or 200 kilogrammes each. The bales are fastened by thin strong wires without cover-mats.

VIII.—RECENT SCIENTIFIC RESEARCH WORK

Although the Sisal plant is outstanding in many respects as fibre producer, the possibility always exists that more profitable varieties may be found or may be obtainable by breeding. Hindorf was one of the earliest writers to draw attention to this possibility, and also advocated intensive selection from among the established plantations in **East Africa.** But historical and cytological evidence indicates that *Agave sisalana,* in East Africa and probably universally, is a clone, *i.e.* the vegetatively propagated offspring of a single original plant. It is the general experience that selection within a clone does not lead to any great improvement. Hindorf sought diligently for seeds of this species, and is the first to record the production of fruits and seeds on cut poles.

Breeding

Breeding experiments with Agaves were started at Amani (Tanganyika Territory) in 1929. Among the desirable characters of a fibre Agave are :—

(1) High yield.

(2) Good quality of fibre.

(3) A hardy and adaptable plant.

(4) A plant easily and cheaply cultivated.

1. Yield

Yield is determined by the number of leaves produced and the amont of fibre in the leaf. The number of leaves produced during the life of the Sisal plant does not appear from the limited data available, to vary greatly between individual plants grown under similar conditions. The number and size of the leaves produced are interdependent and largely influenced by environment.

For increased production, therefore, a more rapidly growing form with a higher total production of heavy leaves is indicated. In naturally occurring species prolific leaf production is usually concommittant with small leaves, but this does not mean that a combination of the characters for numerous and large leaves is unattainable.

In the Sisal Experiment Station of Ngomeni an experiment is in progress to compare different species of Agave.

Agave Angustifolia Haw, was found to be a species outstanding for rapidity of growth and total leaf production. The plants under observation at Amani put on new leaves at approximately three times the rate of *Agave sisalana.* However, the leaf is short, light and contains only a small weight of fibre. The leaf margin is spiny, the fibre very fine. The maximum number of leaves produced by a plant of this species during its productive life is 510, compared with a maximum for Sisal of 230 under similar conditions. It is sexually fertile.

It is the aim of the selectionists to combine the prolific properties of *angustifolia* with the good and abundant fibre production of *sisalana* by cross-breeding. Successes are already being obtained.

Agave amaniensis—Trelease and Nowell (Blue Sisal). The origin of this species is obscure, but it is said to have been imported from Berlin Botanical Gardens before the war, and was found growing under heavy shade in the Amani plantations. Producing a long heavy leaf with a non-spiny margin and containing a very fine fibre, this species is most promising. A sample of the fibre has been examined in a London Laboratory. From the data obtained, it follows that a smaller weight of *Agava amaniensis* fibre would be required than of Sisal for rope of the same size, and the former fibre would be more economical. It is also somewhat lighter to handle. In consequence of its sexual fertility, a large number of seedlings have already been raised. These show segregations of forms with spiny and non-spiny margins.

Moth Proofing for Sacks

Data given in a German trade publication showing that, for use in gastight sacks, camphor, naphthalene, hexachloroethane and p-dichlorobenzene are to be recommended. In order to ensure even pentration of the goods to be protected, the antitined material must be used in sufficient amount, the best results being obtained if it is applied to the entire lining of the sack.

Besides these two most promising species, many others totalling 88 species and varieties are grown in Amani and a great number of cross-breedings are in progress.

The Sisal grower would like an improvement in the proportion of fibre to leaf weight, but little indication is available that this can be obtained with any of the species till now under observation. In most species of Agave, the proportion of fibre is about the same as for Sisal. In Java a new species of Agave has been found which does not develop a flower stalk ; it has as yet produced 600 leaves per plant.

2.—*Good quality of fibre*

The fibres derived from Agave species form the conducting and supporting tissue of the leaf. The distribution of the fibres in the leaf tissue does not in general vary greatly in any of the species examined.

The general standard of quality of common Sisal fibre is considered quite satisfactory by the consumer for the purposes to which it is now put. Length, colour and strength are the main points considered in marketing. The Imperial Economic Committee in England points out that the absorpotion of supplies depends largely on finding extended uses for this kind of fibre. From other sides it is stated that the future policy of the grower must be directed towards producing finer fibre. Therefore, a good deal of attention has been given to the conversion of Sisal fibre into a material suitable for fine spinning, in order to replace the softer fibres used in commerce. In the breeding programme, an important place has been given to the physical qualities of the fibre.

Colour of the fibre is connected with clean decortication, Leaves containing very fine fibre seem to be more difficult to decorticate cleanly, but this may be only a matter of mechanical adjustment and not a serious difficulty.

3.—*Hardy and adaptable plant*

The Sisal plant is cultivated over a wide range of conditions. It is adaptable and singularly free from attack by serious pests and diseases. Only one species, the *Agave* *ingens*, appears to be very susceptible to attack by the Sisal weevil. Another, the *Agave Lespinassei*, is liable to diseases which are said to be due to soil deficiencies, banding disease, leaf scorch etc., susceptibilities to be looked for by the plant-breeder since they may be a serious drawback in otherwise promising types.

4. Good Cultivable Plant

The presence of spines on the leaf margin is a great disadvantage in cultivation. Plants with marginal spines take much longer to cut and are more difficult to cultivate than those without. The breeding of stable forms with non-spiny leaf margins is of great importance. The absence of marginal spines in *Agave sisalana* is not an immutable character, and *Agave amaniensis* (blue sisal), typically a non-spiny form, occasionally produces bulbils and suckers with marginal spines.

MORPHOLOGY OF FIBRES

Further investigations into the morphological, histological and mechanical properties of Agave fibres are being carried out in *Amani*. Nutman, plant physiologist of Amani, has given many details which may be found in the Empire Journal of Experimental Agriculture 1937 Vol. V, pp.75-111.

From his investigations it is learnt that fibre-fineness is only a question of species and not of leaf length. In view of the uncertainty as to the requirements ot Spinners, certain planters have cut their leaves while still short or have deliberately planted Sisal on areas where conditions give rise to a short leaf with the intention of producing a finer fibre at the sacrifice of length. The results show that this course will have little of the desired effect. If fineness is to be regarded as a desideratum, it can more readily be obtained by planting *A. amaniensis* or *A. cantala* which will produce fibres which are markedly finer than the fibres of *A. sisalana.*

The leaf of *Agave amaniensis* also contains many more and longer fibres than does *Agave sisalana*, and the proportion of mechanical to "ribbon" fibres is twice as great in the former.

GRADING PROBLEMS

The experiments of Nutman have considerable bearing on the problems involved in the grading of the finished commercial product.

Till recently little information has been available on the fibre as it exists in the plant, as it is commercially shipped or as it passes through the various stages of manufacture. As a natural result, the personal opinins of both the producer and the consumer have become elevated to the rank of dogma.

Before considering grading in detail, it is advisable to assess the range of leaf-length which is normally obtainable on a well-run commercial estate. An adeqately representative selection of the leaves to be measured can easily·be obtained by taking leaves at random from the rapidly moving belt on which they are carried to the decorticator. Frequency distributions of leaf length proved to be from 45 to 155 centimeters.

As these leaves pass into the decorticator at randon and as in each leaf the range of the fibre is from zero to the whole length of the leaf, it is obvious that the hank being bundled at the exit end of the decorticator contains fibres of the most different lengths. An aggregate of separate hanks passess through the handling processes, and the individuality of the hanks of each leaf is lost.

But also, if the leaves are graded according to lengths, and if each grade of the commercial product is fibre produced from a leaf of a given minimum length, each leaf contributes its complement of long and short fibres to the final commercial product.

However, a recent tendency has arisen to try to grade Sisal fibre on the basis of a minimum fibre length. The initiative in this direction has apparently come from the spinners, who claim that a minimum fibre length of 1 metre (3¼ feet) for No. I fibre is necessary for efficient manufacture. This may well be true, but there does not exist any evidence on which this statement is based, nor does any attempt appear to have been made to confirm it by experimental means. It is quite certain that, at any rate up till recent years, such a material has not been prepared. In the absence of evidence as to the desirability of such a product, the necessity for grading on the new basis will depend on the state of the markets and the firmness or otherwise of the buyers' demands for a product of which they have, as yet, no experience.

It may be possible to combine grading on the basis of a minimum fibre length with the process of decortication. But this would prove uneconomical on most estates on account of the big percentage of waste produced in this way. Thus, it does not appear probable that the majority of Sisal growing areas will find it possible to grade on a basis of a fairly high minimum fibre length unless some other Agave is substituted or *Agave sisalana.* The use of *Agave amaniensis* may conceivably solve this problem, since for a leaf length of 180 centimetres the waste would be less than 30 per cent. grading on a 90 centimetres minimum length. This length of leaf is, so far as our experience with this plant goes, likely to be obtained under the conditions pervailing in most of the Sisal-growing areas in Tanganyika.

It should, in addition, be noted that the longer fibres are also the coarser ones in any leaf, so that by removing the shorter fibres a coarser product will result. The future will decide whether a coarse, long uniform product is to be preferred to the fibre as at present shipped.—Conrad A. Gehlsen in the *Monthly Bulletin of Agricultural Economics and Sociology, International Institute of Agriculture.*

U. S. A.

IMPORTS OF RAW JUTE AND JUTE GOODS

IMPORTS of raw jute and jute goods into U. S. A. according to the statistics compiled by the U. S. A. Department of Commerce are given below :—

Product	Countries of Origin	March 1940 (Tons.)	February 1940 (Tons.)	March 1939 (Tons.)
Raw Jute ...	British India ...	5,937	12,306	4,425
Jute Butts ...	„ „ ...	171	153	116
Total Raw jute and Butts ...	...	6,108	12,459	4,541
Burlap ...	British India ...	16,172	15,030	27,773
	United Kingdom	1,411	479	1,118
	Belgium ...	68	34	232
	Argentine ...	...	42	...
	Germany ...	...	24	116
	Others ...	...	18	1,082
	Total ...	17,651	15,627	30,321
Jute Bags and Sacks	British India ...	1,959	2,560	...
	United Kingdom	...	195	...
	Canada ...	2	1	...
	Argentine ...	1	1	...
	Total ...	1,962	2,757	1,278

MARCH HEMP AND SISAL IMPORTS

Imports of Manila hemp into the United States in March amounted to 4,166 long tons of a declared value of $474,405, according to preliminary figures issued by the U. S. Department of Commerce. These imports were 3,967 tons from the Philippine Islands and 191 tons from the Netherlands Indies.

Sisal imports in March totalled 11,753 long tons valued at $978,934; 5,694 tons valued at $444,295 coming from Mexico; 3,081 tons valued at $277,203 from the Netherland Indies; 1,515 tons valued at $133,323 from British East Africa; 1,053 tons valued at $94,098 from Cuba, and 408 tons valued at $29,803 from Haiti.

U. S. IMPORTS OF VEGETABLE FIBRES

The U. S. Department of Commerce gives the following figures of imports of vegetable fibres :—

Imports in First quarter (in tons)

	1940	1939
Jute and Jute Butts ...	26,898	10,751
Other vegetable fibres including flax and hemp ...	68,280	42,379

U. S. IMPORTS OF HEMP AND MANILA IN MARCH

The U. S. Deparment of Commerce has issued the following preliminary figures :—

Imports into U. S. A. in March, 1940

	tons
Hemp :	
Philippine Islands	3,967
Netherlands Indies	191
Others	—
TOTAL	4,158
Sisal :	
Mexico	5,694
Netherlands Indies	3,081
Br. East Africa	1,515
Cuba	1,053
Haiti	408
TOTAL	11,751

INDEX OF BURLAP CONSUMPTION IN U. S. A.

The Burlap and Jute Association of U. S. A. gives the following index of burlap consumption based on the nine-year period 1930 to 1938, inclusive, and adjusted for seasonal variations :—

	April 1940	March 1940	April 1939
Index	70·7	80·5	86·9

This shows that the consumption in April, 1940 was down by 9·8 and 16·2 per cent. as compared with the respective consumption a month and a year ago.

SISAL IMPORTS INTO U. S. A.

United States Imports for consumption of sisal, as reported by the *Daily Mill Stock Reporter*, during the March quarter of 1940 were as follows :—

Country	quantity in tons
Mexico	... 17,706
British East Africa ...	... 12,229
Netherlands Indies ...	... 10,623
Others	... 5,158
TOTAL	... 45,716

BINDER TWINE EXPORTS UP

The U. S. Commerce Department reports that exports of binder twine from the United States increased in quantity from about 58,000 pounds in the first three months of 1939 to 2,626,000 pounds in the March quarter of 1940, values having been reported as approximately $ 3,000 and $ 182,000 respectively. The principal destinations during the March quarter of the current year were: Norway 176,000 pounds ; Sweden, 1,562,000; Union of South Africa, 625,000, and Turkey, 110,000 pounds.—"Daily Mill Stock Reporter"

CUBAN SUGAR EXPORTS DOWN

Cuban exports of sugar from January 1 to May 11 totalled 939,701 long tons, raw value, compared with 943,103 tons during the same period last year, a decrease of 3,402 tons or approximately four-tenths of 1 per cent. according to Lamborn & Co., states the *Daily Mill Stock Reporter*, of May 16.

Shipments to the United States amounted to 768,844 tons, against 597,846 tons in the same period in 1939, an increase of 170,998 tons.

MARCH BAGGING IMPORTS UP

Imports of waste bagging, gunny bagging and bagging for papermaking into the United States during March amounted to 2,186,755 pounds of a declared value of $ 36,572 according to preliminary figures issued by the U. S. Department of Commerce.

This compared with imports of 1,722,107 pounds valued at $ 21,477 in February last.—"Daily Mill Stock Reporter."

HESSIAN STOCK AND CONSUMPTION

Hessian stock and consumption figures of the United States of America excluding the Pacific Coast business, as reported by the Indian Jute Mills Association, are given below, the figures being in millions of yds. :—

—	April		May		June	
	1940	1939	1940	1939	1940	1939
Stock	232	279	276	271	294	265
Consumption	44	54	53	50	49	47

COTTON FOR BALE COVERS

U. S. A. GOVT. PUSH

According to the *Daily Mill Stock Reporter* of May 14, the approval of allotments to four cotton mills for the manufacture, sale, and delivery of 855,000 cotton "patterns" or bale covers, was announced by the Department of Agriculture, Washington. The allotments were made under a programme designed to encourage the use of American grown cotton for this purpose, which was annouced on May 2, 1940, and which called for a maximum of 1,000,000 bale covers of cotton bagging. Consideration is being given the applications of several other mills for the manufacture, sale, and delivery of the remaining 145,000 patterns.

The programme provides payments of 25c per pattern to participating manufacturers who either make the patterns before July 1, 1940, or sell them before that date to cotton producers, ginners, cottonseed oil mills, distributors of cotton bagging or other eligible purchasers, for delivery not later than December 31, 1940.

Similar to a previous programme under which approximately 1,000,000 bale covers of cotton fabric were used, the project represents one of the various new use programmes undertaken by the Department of Agriculture to provide additional outlets for raw cotton produced in the United States.

Use of cotton bagging for covering an average domestic crop of cotton would provide an outlet for 100,000 to 150,000 bales of raw cotton each year. Department officials anticipate the use of about 11,000 bales under the current cotton bale cover programme.

"Cotton Roads"

WIDESPREAD INSTEREST IN U. S. A.

IN the United States of America there is a widespread interest at present in the new 'cotton roads' which are being made across the continent from New York to California and from Florida to Maine. According to an article published in *Roads and Road Construction* of April 1, the modern procedure in construction is to lay the cotton fabric on a surface treated with bituminous material. The bituminous material is then applied to the fabric and completely covered with crushed mineral aggregate. The crushed cover material is rolled in and a lighter application of bituminous material is applied and covered with a layer of chips, which are rolled in with a heavy roller. The best results in cotton roads have been obtained from cloth of comparatively open weave. The breaking strength varies between 25 and 45 lb. (grab method) according to grade. The most practicable fabrics cost between 450 and 750 dollars a mile for a road 18 ft. wide.

In New Jersy, cotton fabric and tar were applied on 600 linear ft. of a gravel road in South Brunswick township. After a year of service an inspection was made. Due to snow and light rain for two days the road and adjoining ground was saturated. On the part of the road where the fabric had not been used, the surface was broken in twelve places. Broken areas were 0.5-1.5 sq. ft. in area and were quite soft. In other places the surface was resilient and water would ooze to the surface under pressure with a blunt instrument. On the other hand, there were no broken places in the section which had been treated with cotton fabric, and the surface was tougher and less easily punctured with a screwdriver. Recent reports sent in from a number of highway departments indicate that short test sections of bituminous surfaced roads, having cotton as part of their construction, have decreased maintenance costs and require less patching. The South Carolina Highway Department has used cotton fabric on bridge surfaces also with a marked degree of improvement in maintaining a satisfactory bituminous surface.—"Nature", May 4.

AMERICAN HEAVY PAPER BAGS

EXPORT ORDERS COMING IN

Disruption of normal trade in both paper and pulp as a result of the Scandinavian invasion has led to moderate export orders for some American paper bag manufacturers from countries which normally do not buy here, reports the *New York Times*. The new markets opened by this development have included some Latin-American nations and parts of the British Empire, including South Africa. Specifications for the bags have indicated that they were to be used for packing sugar, cement and fertilizer.

This means that heavy paper bags, made of paper containing old rope or other such raw material, are wanted.

DUNDEE PRICES

According to the telegrams received by the *Statesman* on London Commodity Markets, the prices of raw jute in Dundee were as follows :—

——	17th June 1940.	24th June 1940.	1st July 1940.	8th July 1940.	15th July 1940.
Firsts (£ per ton) ...	44	44	44	34¾	34
Lightnings (£ per ton) ...	40	40	40	32	30½

Fibre Position of Germany

FLAX, SISAL AND JUTE

AN analysis of Germany's fibre position is given in the issue of June 8, of *Commerce*, which is quoted below :—

As far as flax is concerned, Germany can probably maintain its supplies, and flax can be used, to some extent, as a substitute for cotton. But supplies of this commodity, while they may be adequate for normal purposes, are not likely to permit a large surplus for additional uses. Supplies of hemp and sisal, which are essential for the making of rope, string, etc., are likely to be seriously curtailed. Supplies of jute, which are vital for the production of sacking, including the manufacture of sandbags, will probably be completely cut off.

It is unlikely that Germany will go short of flax, but the relatively small amounts involved mean that it will be of little use as a substitute.

It can be said that German supplies of hemp are not likely to be seriously curtailed.

German imports of sisal in 1938 were as follows according to official trade returns :

	Metric tons		Metric tons
India	10,403	Tanganyika	13,056
Dutch East Indies	13,921	Kenya and Uganda	2,631
China	74	Portuguese East Africa	2,719
Mexico	6,521		
Cuba	4,989		
All Countries	...	...	51,951

NOTE :—These figures incorporate the trade returns of Czecho-Slovakia which cover other fibres, such as Indian hemp, etc. The Austrian trade returns do not specify the type of fibre, but it is thought that they consist mostly of sisal.

In 1938 the Altreich imported 2,209 metric tons of agave fibre from Mexico. The figures for this fibre are not given separately in the case of other countries.

While Germany can obtain hemp from neighbouring countries, its sisal supplies and its supplies of other hard fibres are likely to be cut off. Hemp can be used as a substitute for sisal in the production of ropes, string, etc. But if this is done, inferior products are likely to be produced. Sisal is particularly important for making hard marine cordage and binder-twine.

German imports of jute in 1938 were as follows according to official trade returns:

	Metric tons
India	162,988

Jute is virtually only exported from India, although a certain amount is grown in China, Indo-China and Japan. China's export fell from 14,000 metric tons in 1930 to 6,000 metric tons in 1938.

The consumption of jute can be almost unlimited in war-time. However, it deteriorates rapidly.

An artificial jute is being produced called "Zelljute", but production is not likely to exceed 11,000 tons in 1940, and costs are very high.

The cutting off of German supplies of jute and hemp has already led to the decree that cotton or paper sacks must be used for A.R.P. purposes.

AFRICAN SISAL EXPORTS IN TEN MONTHS 22,899 TONS

According to the *Daily Mill Stock Reporter* of May 2, exports of sisal from Kenya and Uganda, British East Africa, during the first ten months of 1939 totalled 22,899 tons valued at £342,630, compared with 27,872 tons and valued at £440,920 in the 12 months of 1938. Since the outbreak of the war, the Government has pegged the price of No. 1 sisal at £26 a ton, as compared with the low level of £16 10s. prior to hostilities. Owing to the low prices in the first half of 1939, many plantations ceased operations, but owners have since attempted to get the plantations into production again, although they were handicapped by drought in the latter part of 1939.

Exports of sisal from Tanganyika Territory to the United States in 1939 were valued at £212,764, compared with £154,045 in 1938; sisal tow shipments to the United States in 1938 were valued at £10,600 but none was exported to this country in 1939.

EAST AFRICAN TENDENCY TO EMPIRE RESOURCES

INDIAN EXPORTERS OF HESSIANS PUT IN TOUCH

Since the declaration of war and the introduction of Government control of imports there has been a tendency on the part of the importers in East Africa to divert their attention towards Empire sources of supply with the result that trade enquiries recieved by the Indian Government Trade Commissioner in Mombassa have recently embraced a much wider of range commodities, states a Central Government Press-Note, dated June 22.

Firms in Kenya, Uganda and Tanganyika have been put in touch with Indian exporters of, among other things, hessians, cotton blankets, canvas, carpets and rugs.

SUGAR PRODUCTION IN CUBA

SMALLER THIS SEASON

The *Daily Mill Stock Reporter* of May 8, reveals that aggregate sugar production in Cuba in the current crop year to March 31 this year amounted to 2,273,613 long tons, against 2,371,983 tons correspondingly in 1938-39.

HEMP RUSH IN JUGOSLAVIA

The steep rise of hemp prices caused by the war has stimulated hemp cultivation in Jugoslavia. A large extension of the acreage under hemp in the Banat is reported by the *Jute Review* correspondent. Last year's hemp exports amounted to 22,385 tons and were 10% higher than in the previous year.

JUGOSLAVIA HEMP EXPORTS

Hemp exports from Jugoslavia are authorised only if compensated for by imports of jute and flax—"Commerce Reports."

ABACA PRICES

According to the May number of *Commerce Reports* following an upward movement on the abaca market during the first 2 weeks of April, recession set in, with buyers withdrawing. Although prices again moved downward, a portion of earlier gains were maintained. However, at the close of the month average abaca prices were nearly 15 per cent. below the corresponding date last year.

TROPICAL INTERLINING

USE OF JUTE SLIVER WORTH CONSIDERATION

A new interlining material for garments, rugs, flotation purposes, etc., just introduced is said to be one outcome of a search for heat insulators for refrigeration, applied to clothing. The material comprises a carded web of fibres of tropical origin (as light and lustrous in appearance as kapok)

(Continued at bottom of Page 291)

"Urena Lobata"

STEADY GROWTH OF PRODUCTION OF JUTE COMPETITOR IN THE BELGIAN CONGO

EXPLOITATION of fibre yielding plants is extending steadily in the Belgian Congo. according to the *Bulletin Agricole du Congo Belge* (Vol. XXX, No. 4), states the *Industrial Fibres Review* of May. The tonnage exported has risen from 40 in 1932 to more than 3,000 in 1938. It is considered that in the Leopoldville (Lower Congo) province alone an output of 10,000 tons is possible in the very near future.

Urena Lobata, the only fibre plant now cultivated by the natives, is found in a wild state throughout the colony; it is regarded as a weed in localities where its fibre is not extracted. It grow to a height of 5 to 10 ft, where the soil is sufficiently moist and the rains are abundant. It can be cultivated successfully in localities where cotton

(*Continued from Page 290*)

covered on both sides by very open cotton muslin material and the whole machine-stitched in lines at intervals of about ¾″ in. The fine fibres are hollow but are water-repellent and rot-resistant. The material gives warmth to garments but little weight; it does not bulk and is easy to cut and work. It is normally supplied 39″ in. wide in rolls 125yds. in length. The services have found extensive use for the new material and it is included in all R. A. F. flying kit—an incidental point is that a "Tropical" jacket prevents an airman from sinking if he falls into the sea.

The above note appears in the *Textile Manufacturer* for May, and in this connection the Director of the Technological Research Laboratories of the Indian Central Jute Committee is of the opinion that the use of jute sliver in the manufacture of materials for similar purposes as above may be worth consideration.

cannot be planted because of an excess of moisture or an unsuitable distribution of the rainfall. There are vast regions in this category in the Congo and it is easy to foresee the time when the colony will be able to supply the 70,000 tons of fibre of the jute type required by Belgian industry. To attain this result it will be necessary for the trade to take a serious interest in this product and that there shall be an adequate staff in the colony to carry on the requisite propaganda.

Retting: In the Congo the leaves of the *Urena Cephalonema*, the two plants from which fibre is extracted, are placed in troughs weighing about 50 lb. and submerged in running water.

The process is slow—from 15 to 21 days; in dry seasons it may take from 30 to 45 days. When complete the sticky pulp of the leaf is removed by holding a number of leaves in one hand and squeezing the bundle through the other hand. The bundle is then gripped tightly at one end with both hands and the surface of the water is whipped with it. The outer sheaths are then stripped off. After washing and drying, the bundles of fibre are beaten against a stake or a tree to separate them and sorted according to colour into uniform hanks about 4 in. thick and weighing about 1 kg. Natives require a certain amount of training in the process of fibre extraction. It takes about eight days before the individual output reaches 2 kg. a day and the native will have extracted about 50 kg. before being able to do it quickly and well. By that time is daily output should have reached 4 kg. if he is a good worker and has only to deal with particularly good leaves at least 6 ft. long. It is believed that with a suitable technique and the right quality of leaf a production of 10 kg. per day of 10 hours should be possible. The work is not tiring and can be carried out by children of 8 to 10 years.

To attain satisfactory results the European instructor should himself have made at least 50 kg. of fibre and shouid have native assistants throughly conversant with the work and able themselves to prepare at least 4 kg. of fibre a day. He must choose the localities in which to undertake propaganda activities and the places in which retting is to be done.

The fibre content of *Urena* is 5 per cent. of the green leaf; that of *Cephalonema* is 3 to 5 per cent. The yield of Urena is from 325 to 900 lb. per acre according to the soil. The lower yield is from sandy grasslands and the higher from clay-sand forest areas. On the average, with soil of reasonable fertility, one can reckon on a yield of about 720 lb. of fibre per acre.

FOREIGN ECONOMIC-SITUATION SURVEYS AVAILABLE

The Division of Regional Information is preparing for immediate release a series of surveys of the economic situation in some of the more important foreign countries during 1939, in advance of the publication of the 1939 "*Economic Review of Foreign Countries*". These are in response to a demand for information on economic conditions in countries figuring prominently in the current international political developments. Surveys for Japan, Brazil, and France were released during April, and present plans include the early publication of similar surveys for the following countries :—Union of Soviet Socialist Republics, the Philippine Islands, the United Kingdom, Canada, Australia, Chile, Mexico, and the Netherlands Indies. Copies may be obtained, upon request, from the Division of Regional Information, or through the District Offices of the Bureau of Foreign and Domestic Commerce.—"*Commerce Reports*".

A NEW INTERLACING MACHINE

According to the May number of the *Industrial Fibres Review* a new interlacing machine with a wide application in the manufacture of pads of hair, coir, Algerian fibre and

(*Continued at bottom of Page 294*)

War Risk Insurance

LARGE INCREASE IN RATES

LARGE increases in war risk insurance rates are announced as a result of the political situation, states a *Reuter* message from London, dated June 18.

The rates between English West and Southcoast ports to East, Far East and Australian and African ports have been doubled at two hundred shillings per cent. The rate to the America's has been raised from a hundred to a hundred and fifty shillings per cent. Between the America's and parts of Africa, Australasia, the East and Far East rates have been raised from forty shillings for the allied and thirty shillings for neutral vessels to a hundred shillings for all ships.

(Continued from Page 293)

sisal, which permits a change-over from one fibre to another without any alteration except for changes in thickness and weight is made by William Bywater, Ltd., Leeds. It will interlace on to hessian or calico and will also produce pads of sisal and cotton felt interlaced together without hessian or calico backing. The usual size of machine will take a roll up to 48 in. diameter ; a larger machine is also made. These machines can be arranged, if desired, for intermittent interlacing, so that pads with a hessian flap all around can be produced ; this, however, involves provision of fast and loose pulley drive. The gross weight of the machine for 48 in. roll 18½ cwt. and packed for export it measures 35 cu. ft. The power taken is 5 h. p. operating at a main driving shaft speed of 350 r. p. m. Output, when interlacing to hessian, is up to 125 yds. per hours ; sisal and cotton felt together, without backing, up to 200 yds. per hour.

FREIGHT RATE ON BURLAP

CALCUTTA—U. S. A.

At a meeting held on May 17 of a committee of The Burlap and Jute Association and the Textile Bag Manufacturers Association with representiatives of the Calcutta-North Atlantic Steamship Conference, a freight rate on burlap from Calcutta to North Atlantic and Gulf ports of the United States, of $ 20 per ton was agreed upon for the third quarter of 1940, state the *Daily Mill Stock Reporter* of May 18. This is an increase of $ 4 a ton above the prevailing third quarter rate of $ 16 per ton. The new rate will apply to bills of lading dated July 8 to October 7, 1940 inclusive.

The rate on raw jute was not decided and will be announced later. The present jute rate is $ 13 per ton.

Some slight change in the burlap contract form were agreed upon, and the new forms will be mailed out by the Conference secretary at an early date.

INCREASE OF CHARGE ON E. B. R. JUTE TRAFFIC

Mr. H. W. Meakins, Traffic Manager, Eastern Bengal Railway, notifies that the increase in charge of two annas per rupee of the total freight, on each consignment which is being levied over the E. B. Railway on goods traffic generally from the 1st of March, 1940 will, with effect from the 1st of July, 1940, be levied also on Jute traffic, both in local and through booking,

EXPORT RESTRICTIONS

The Central Government has prohibited the export to any place in Bulgaria, Greece, Hungary, Rumania, Yugoslavia, Switzerland or Lichtenstein or to any of the Russian ports situated on the Black Sea or to any French territory in Europe of any goods other than goods of the description specified in the Government notification, dated May 15, unless they are covered by a special permit issued by the Central Government in the Department of Commerce, states a message issued from Simla by the *Associated Press*, under date, June 28.

Fibre Production and Trade Items

Conditions in Yucatan

A report on conditions in Yucatan by the American Consulate at Merida, states that during January henequen mills in the district were operating at full capacity, some establishments working three 8-hour shifts. Local mills were consuming from 9,000 to 10,000 bales of henequen fibre monthly and they continued to operate at full capacity in February in spite of a reported decline in the demand for cordage in the United States. The same report mentions an amendment to the tax law, which became effective on January 23rd. This provides for a production tax on sisal fibre and waste, ranging from 0.04 pesos per kg. when the selling price does not exceed 0·10 pesos per kg. f. o. b. ship, Progreso. Fibre delivered to the *Henequeneros de Yucatan* is, however, only subject to a tax of 0.03 pesos per kg., regardless of the price, and this tax is paid by the corporation. Private planters, as in the past, are compelled to deliver their production of henequen fibre to the corporation, and the amendment to the tax law seems to be intended to force producers of short fibre to deliver their output to the *Henequeneros de Yucatan*. Henequen *bagasse* is subject to a tax of 0.025 pesos per kg. if produced by machinery and 0.018 pesos per kg. if hand produced, if delivered to the *Henequeneros* within 10 days. Binding twine and henequen cord produced for the *Henequeneros* are not subject to a production tax.

Swedish Fibre Spinning Works

The Swedish Department of Commerce recently issued a statistical survey of Swedish industries as at the beginning of 1939, together with final value figures for production in 1938. According to this survey, the flax, hemp and jute industry comprises one flax spinning mill, with an output value in 1938 of 3,123,000 kr., six flax weaving mills with an output value of 7,780,000 kr., one combined flax mill with an output value of 4,167,000 kr., five jute spinning mills with an output value of 7,668,000 kr., making thirteen undertakings in all with a total of 2,838 workers and an output value of 22,738,000 kr. Associated industries include 49 manufacturers of tape, cords and curtains with an output value of 10,951,000 kr,, 14 roperies with an output value of 8,058,000 kr., 24 manufacturers of awnings, tarpaulin and similar goods with an output value of 3,782,000 kr., ard 7 manufacturers of roller blinds with an output value of 2,453,000 kr.

A leading enterprise in Sweden's fibre spining and weaving industry, Skandinaviska Jutespinneri och Vafven Aktiebolaget, Oskarstrom, celebrated its golden jubilee on April 1. The company was founded as a joint-stock enterprise with a capital of 1,200,000 kr. on June 28, 1889 and the mill began operating at the beginning of April, 1890. Last year the production of the jute department comprised jute yarn to a total value of 3,915,784 kr., 2,054,500 jute sacks and 7,269,500 metres of other jute fabrics. The flax department turned out 3,752 tons of yarn and 1,368,200 metres of linen textiles.

Phormium Tenax in Chile

Transplantation of phormium tenax plants from New Zealand to Chile has been successfully carried out by the Chilean Formic Company, which has established a national fibre industry on the basis of a farm of 400,000 plants near Valdivia. The national sack industry has also reported a good year. This industry is at present using jute imported from India, but it is planned eventually to use national hemp known as canamo. At present, however, canamo growers can obtain better prices for their products on the foreign market and the export value of canamo is given at 20,000,000 pesos a year. Ten years ago, there were only 5,000 canamo growers in Chile, but according to the last census, this number had increased to 20,000.

The Chilean Price and Control Board has issued a decree making compulsory the disclosure of all bags and sacks, following complaints by farmers of a shortage of stock. Steps are also being taken to restrict exports of canamo.

Italian Fibres Treatment Patent

Many natural and artificial fibres have so far not been used as textile materials owing to their normally smooth surface, which does not allow of working up by normal means. A new Italian patent has been issued, of which a full account is given in the *Bullettino Cotoniero*, the organ of the National Fascist Federation of the Cotton Industry, for a method of producing or increasing the coarseness and irregularity of the surface of a fibre by the application of an agent to the fibre which transforms the cellulose into a cellulose compound without altering the microscopic form of the fibre. The patent differs from an earlier one of a similar nature, as the agent is applied irregularly, and not, as in the former case, regularly.

Shortage of Sacks in Turkey

The Turkish Minister of Agriculture has announced that wool, cotton, linen and jute goods with an admixture of other materials of a maximum of 25 per cent. (Turkish Tariff No. 135) will be admitted under the more favourable customs duties of Tariff Nos. 106, 107,377-379, 383 and 417, if the goods in question were in a Turkish customs werehouse at the time of publication of the announcement, and if the duty in question is paid within three months. A shortage of sack is responsible for this measure.

Mexico Ixtle Industry

The "National Ixtlera," Mexico's largest privately owned ixtle fibre industry, which claimed to monopolise Mexico's ixtle production by controling and buying all the ixtle produced by co-operative groups of ixtle workers, is to be dissolved and its lands are to be given to the workers who will henceforward operate the whole industry themselves under the supervision of representatives of the Mexican Ministry of Finance, the Department of Agriculture, the National Bank of Credit, and the workers' representative.

Fibre Prices in Latvia

The Latvian Government has fixed price for the acquisition by the flax and hemp monopoly of the 1940 crop. Flax fibre will be bought at 0·73 to 1·70 Lat per kg., according to grade, hemp fibres at 1·40 to 1·90 Lat per kg., flax tow at 0·75 to 1·25 Lat per kg., and hemp tow at 0·95 to 1·25 Lat per kg.

Netherlands Indies Fibre Exports

Exports of agaves fibres (including waste) from the Netherlands East Indies in 1938 amounted to 90,079 tons. According to Bulletin No. 175 of the Central Bureau of Statistics, Batavia, worlds exports in that year amounted to 357,000 tons, so that the Netherlands East Indies contributed just over 25 per cent. of the total. Java was responsible for 33,495 tons and the Outer Provinces for 56,584 tons. The value is given as 9,186,000 fl.

The export of kapok fibres amounted to 16,344 tons valued at 6,429,000 fl., of which 2,515 tons was estate grown and 13,829 tons was produced by natives. Java shipped 14,217 tons and the Outer Provinces 2,127 tons.

Madagascar Quota

Imports of sacks and fabrics of jute of foreign origin may only be imported into Madagascar during 1940 within the limits of 40,000 quintals. No quotas have been fixed for

(Continued at bottom of page 300)

Monthly Notes on Progress of Schemes

THE following is a short review of the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

Some of the important matters decided by the Local Sub-Committee at its meeting held on the 19th June, 1940, were (i) the continuance of the existing arrangement for medical aid to the employees of the Committee and certain further concessions which should be granted ; (ii) grant of house rent allowance to the staff of the Agricultural Research Laboratories at Dacca ; (iii) revised leave terms to the future entrants in the Secretary's office ; (iv) Submission by the Marketing

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(Continued from page 299)

imports of fabrics of pure jute, fabrics of mixed jute, and fabrics of phormium tenax, abaca and other unspecified vegetable fibres.

Flax in Kenya

It has been announced by the Flax Board of Kenya that 14 factories are being erected with the aid of money provided by the Colonial Development Fund. The charges have been fixed at £ 12 per ton for flax and £ 8 per ton for tow. A cess of £ 1 per ton for flax and 15s. per ton for tow exported from the Colony is to be levied.

Formosa's Fibre Production

According to the American Consulate at Taihoku about 800 tons of sisal was produced in Taiwan (Formosa) in 1938. Jute production exceeded 14,000 tons and some 800 tons of ramie fibre was grown in the island.

The foregoing paragraphs are taken from the "Industrial Fibres Review" of May.

and Satistics and Information Sections of their progress reports six monthly instead of annually and (v) the removal of the offce of the Committee to its new premises.

A meeting of the Special Sub-Committee was held on the 26th July to consider the opinions received from the Chambers of Commerce, Trade Associations and individuals concerned on the tentative proposals for the stabilisation of jute prices.

It has been tentatively decided to hold the next meeting of the Indian Central Jute Committee from the 4th to 6th September.

In reply to their enquiry as to whether the Indian Central Jute Committee would have an objection to the appointment of the Secretary, Indian Central Jute Committee as an "Occasional Member" to attend meetings of the Provincial Board of Agriculture, Veterinary and Animal Husbandry now proposed to be reconstituted, the Government of Bengal have been informed that the Committee would have no objection to this course.

The office of the Committee has been shifted to No. 4, Hastings Street, (Raja Chambers), Calcutta.

Marketing and Transport

The standing Publication Sub-Committee held its final meeting on June 5, 1940 and completed their review of the draft report including the summary of findings and recommendations. They also approved the maps, graphs and diagrams illustrating the various costs incurred, market charges, movement of jute, etc., which are to be included in this publication. Final revision in the light of amendments suggested by the Publication Sub-Committee was carried out by Dr. Husain, M. O., assisted by Mr. Kazimi, S. A. M. O., and the report was ready to go to press at the end of June. Estimates for printing were received from four firms and after careful study of the quality of work offered and prices quoted the contract was awared to the Commercial Gazette Press.

Second Marketing Report

The S. M. O. visited four jute mills and made enquiries referring to qualities used in the production of standard fabrics. The introductory chapter on the general utilisation of fibre was put in hand also the second chapter, dealing with "Supply". Statistics relating to mills purchases of raw jute and production of cloth are now being collected for the period 1919 to 1940. Enquiries connected with the jute hand-loom industry are being undertaken. In this connection the co-operation of the Director of Industries, Bengal and members of his staff is much appreciated.

The annual report for the year 1939-40 was prepared.

Arrangements were completed with the Police, Registration and Postal authorities in Bengal and Bihar for the Jute Price Dissemination Service. All necessary printing was completed and with the co-operation of the Publicity Section over eleven thousand pamphlets in Bengali and Hindi were sent out for distribution in centres where the scheme now operates. Two well known Calcutta jute broking firms supply market rates daily at 3 p.m. thereby ensuring that the latest and most reliable rates would be available for dissemination in the interior markets.

Agricultural Research

Heavy attack of jute semilooper was noticed on the Government farms at Dacca, Faridpur, Pabna and Berhampore. Considerable damage has been done by this pest to the leaves of the jute crop.

A field near Dacca which showed extensive chlorosis was surveyed. The crop was a mixture of three types, and about 65 per cent. of the plants showed chlorosis.

By the microscopical examination of the mature stems at the harvest stage, the numbers of fibre layers were ascertained at various levels of stem.

Level	*D.154*	*Level*	*Chinsurah green*
Top 74″	0	Top 82″	0
56″	1	62″	1
Middle 37½″	6	Middle 41½″	6
8	13	8″	11
Bottom	18 layers	Bottom	13 layers

Soil infection studies have established that seedlings when grown on stem-rot infected soil develop the disease.

Studies of the life-histories of Indigo caterpillar and Jute Apion were pursued. Efficiency of parasites in the destruction of Jute-apion is being tested.

Technological Research

The development of a satisfactory method of assessing fibre quality from small scale spins and yarn tests has been brought a stage nearer finality by the development of a method of assessing the quality of cuttings by actually spinning them in admixture with a standard quality of long jute, a stock of which is maintained for the purpose.

Tests are still in progress but there is every reason to believe that a procedure as outlined below will give data which will satisfactorily indicate the quality of a fibre sample.

As indicated in Bulletin Vol. II, No. 7 and Vol. III, Nos. 1 & 2, it is concluded that the best general procedure in comparing fibre samples is to spin to a standard 10 lb. yarn after cutttng 20% from the root-end, irrespective of the quality of the root and to assess separately the value of the cuttings.

The procedure now under test is to make the assessment of the quality of the cuttings by blending these with a standard quality of long jute and to note the percentage decrease in the quality ratio and regularity of the yarn, and the increase in degree of speckiness, produced by this blending. The quality of cuttings available from 25 lb. of fibre is just sufficient to enable the blended yarn to be satisfactorily produced. A chemical and physical examination of the cuttings may be made, in addition, to check the conclusions arrived at from the spin.

A method of comparing fineness is under examination in which the fibre after a standard pre-treatment (suitable for removing wax and impurities without affecting the dimensions of the fibre strands) is immersed in a dye solution and the degree of exhaustion of the dye-bath determined. The method is bassed on the anticipation that since the total surface of the fibre is greater in fine samples than in coarse samples the dye will be more rapidly exhausted in the former case, intrinsic differences in the affinity of different samples of pre-treated fibre probably having only a small effect.

It seems desirable to note that from more than one source enquiries have been received regarding the possibility of making from jute a seaming twine suitable for wool packs, wheat bags, etc. The material so far commonly used is true hemp (Italian, Hungarian, etc.) but this is hard to obtain now. It is fairly certain jute twines cannot be produced, by ordinary methods, with a strength much more than about two-thirds the strength of hemp twine but it is very likely that a twine could be produced which would serve the purpose well enough. Both dyed-and-polished and unfinished twines are required. Special treatments designed to increase the strength of the twines seem to be worthy of attention. Treatment with formalin or other cheap highly reactive organic compounds may be contemplated.

The type of twine which appears suitable is a five-ply made from 5 to 8 lb. singles.

Improvcment of Jute Forecast.

The field survey work in connection with the Sampling Survey of Jute in Bengal continued to make good progress although with the outbreak of the monsoon in June the work became much more difficult. Several workers fell ill and there have been a few cases of desertion also. But due to the zeal and loyaty of the other workers the progress was not much hampered. The Inspectors were able to check 10% of the allotted grids. The progress of work up to the 30th June is given below :—

	Total grids allotted	*Finished up to 30th June, 1940*
Nadia	1,502	1,280
Jessore	2,562	1,707
Rajshahi	1,974	1,763
Bogra	3,605	2,580
Rangpur	2,770	2,080
Mymensingh	16,210	13,675
Dacca	6,524	6,098
Tipperah	6,364	5,037
Total	41,511	34,220

The above statement shows that 82% of the allotted work has already been finished. Two new sub-blocks were taken up during the month and two new units sent there for field enumeration.

A meeting of the Jute Census Committee was held on the 25th July to consider *inter alia* a scheme for conducting experiments on crop-estimating.

Secretary visited Bongaon, in Jessore District, on the 21st and 22nd June and certain thanas in Commilla District from the 11th to 12th July in connection with the inspection of the Jute Census work.

Statistics & Information

The effects of war for the last ten months on the jute trade and the future prospects of jute are being investigated in some detail. Preliminary results show that the new crop of the season will find a number of important overseas markets closed owing to the war and a preliminary estimate of the extent of reduction in raw jute export in the near future has been worked out. This estimate needs verification and further evidence is being collected for the purpose. An analysis of the price of pucca bales of first quality has shown that the price depends to *some extent* on the export demand. As the demand factor does not fully explain the variation in price, other factors seem to be responsible for causing part of the variation. Further investigations on this point are in progress. From the results of the inveatigations carried out so far it appears that although the export of raw jute will be reduced in the current season, the price of pucca bales may not go down in direct proportion.

The extent to which raw jute was displaced by other fibres before the outbreack of war is being investigated as a part of the problem of jute substitutes. As the U. S. A. is one of the largest consumers of substitute fibres, U. S. A. figures of net imports of jute and some important vegetable fibres have been analysed for a number of years before the war. It appears that for this period net imports of raw jute and other fibres were on the whole independent of one another. The effect of price on imports will be the next point for consideration.

An attempt is being made to compile a composite index number of prices of substitute fibres based on the daily New York quotations and the consumption figures of these fibres given in the census of manufacturers in U. S. A. for the year 1937. Collection of daily prices is proceeding.

The annual report of the work done in the Statistics and Information Section during 1939-40 is under preparation. In this connection index numbers of average monthly prices of raw jute and jute goods have been compiled and charts have been prepared to illustrate the comparative variations of prices from month to month. Tables are being compiled to indicate the jute business activity in important jute consuming countries.

Arrangements have been made to receive daily prices in Calcutta for Jat and District loose jute, and First and Dundee Crack Firsts pucca bales. These are being tabulated and plotted on charts in order to note their variations.

The work of compiling a card index for all information collected is under progress and is expected to be brought up-to-date by the middle of August.

Publicity

With the co-operation of the Marketing section 11,000 leaflets in Bengali and Hindi were distributed in Bengal, Assam and Bihar announcing the launching of the Committee's Price Dissemination Service, which commenced in Bengal from July 2, and is expected to commence in Bihar about a month later, by means of daily telegrams for some places and price cards for others. At the time of writing this note the necessary arrangements for the utilisation of this Service in Assam have not been completed by the Government of that province, but it is expected that by the time this is in print the Service in Assam also will have commenced.

This service, which was introduced for the first time during the last jute season as an experimental measure, having for its obeject the availability to growers in the interior of the provinces the day-to-day prices of raw jute in Calcutta, has been continued this year on a larger scale, as it proved to be of material benefit to the ryot in being forearmed with the Calcutta prices. At present quotations only for "White" *Jat* and *Daisee* are being sent out.

Besides the usual work in connection with the production of the *Bulletin*, a note reviewing the work in connection with Publicity work of the committee for the proposed Triennial Report has been prepared, and at the joint request of the Secretary of the Indian Jute Mills Association and the Editor of the *Indian Year Book*, a popular book of reference published annually by the *Times of India*, Bombay, an article on the "Jute Industry" meant for that book was revised and brought up to date, giving due publicity to the Committee's activities.

INDIAN CENTRAL JUTE COMMITTEE

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CONTENTS

PAGE.

Indian Prices During July 309
Production and Consumption of Jute 313
Stocks of Raw Jute in Mills 314
The 1939-40 of Jute Season—A Review 316
Problem of Jute Prices 322
Stock of Jute and Jute Production 323
Raising of Jute Prices 324
Produce Markets Bill 326
Bengal Assembly Pass Jute Regulation Bill 327
Pension for Jute Mill Workers 328
Trade Commissioner for Australia 329
Indian Trade Commissioner for Japan 329
Bombay's Fibre Resources 330
American Markets for India 331
Deterioration of Jute—An Article 332
Agaves and Yuccas of Mexico 335
U. S. A. 343
British Jute Markets 345
New Orders 345
Dundee Prices 347
Dundee Jute Arrivals 347
Japan Import of Jute and Goods 348
Difficulties of Hungarian Mill 348
Jute Mill in Turkey 348
Egypt Import of Jute and Goods 349
Jute Industry in Switzerland 350
Jute Industry in Brazil 351
Jute Substitutes 352
Fibre from Linseed Straw 353
Manila Hemp Stocks and Shipments 353

PAGE.

Flax Supply Problems 362
Flax Production in India 362
Growing Flax in Bengal and Bihar 364
Flax in Australia 366
Improved Method for Extracting Flax 366
Sisal and War Situation 367
Linoleum for Furniture 368
Paper Shortage—Jute Sacks' Opportunity 368
Ixtle Industry in Mexico 368
Phormium Tenax in the Isle of Man 369
Phormium Tenax in Natal 370
Yarn Stiffness Test 371
New Patents 372
Export and Import Restrictions—Jute and Substitutes ... 374
Fibre Production and Trade Items 375
Trade Notes 377
Monthly Notes on Progress of Schemes 381
Conversion Table ... ... Inside back cover

Bulletin No. 5, Vol. III.

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Indian Prices during July

DECLINE AFTER FIRST WEEK

LOOSE JUTE

NORMALLY, July is a month of pronounced activity in the loose jute trade as it marks the opening of the new season. This year however July will be remembered as a period of uncertainty and small scale trading.

The market opened with rates quoted as follows :—

Indian		*Jat*			*District*		
		Rs.	as.	p.	Rs.	as.	p.
Top	...	10	0	0	9	8	0
Middle	...	9	0	0	8	8	0
Bottom	...	8	0	0	8	0	0

Small business in Indian packed Jat, Middle and Bottom at Rs. 9/- and Rs. 8/- was reported by mills early in the month, but the demand was easily satisfied and with sellers over, rates slackened off. By the 8th of July they had declined to Rs. 8/8/- for Indian Jat Middles and for the rest of the month this was the basic rate for loose jute. Mills came into the market with fair steadiness but for relatively small quantities and at no time was there sufficient buying strength to raise prices above the agreed minimum of Rs. 8/8/- on the basis of Indian Packed Jat Middles. Business reported during the month was as follows :—

'Jat' Middles European	...	Rs. 9/-	August
,, Bottom ,,	...	,, 8/-	,,
'District' White and 'Tossa' Middles Indian	...	,, 8/-	,,
,, Bottom ,,	...	,, 7/-	,,

At the close, the tone of the market was weak with sellers offering at the minimum rates.

Quotations on 31st July 1940 were :—

Indian		*Jat*	*District*
		Rs. as. p.	Rs. as. p.
Top	...	9 8 0	9 0 0
Middle	...	8 8 0	8 0 0
Bottom .	...	7 8 0	7 0 0

PUCCA BALES

At the opening there was some enquiry from overseas and sales were reported for Dundee Daisee 2/3 at Rs. 56/- and Dundee Tossa at Rs. 54/- July. For the remainder of the month, however the export market was practically at a standstill and though balers were prepared to sell at increasingly lower rates, they did not attract buyers.

A feature of the pucca bale market was the purchase of selected marks by local mills. New Crop Firsts were sold at Rs. 47/- ready delivery and Rs. 46/- for July.

The position at the end of the month was that no interest was being shown by export markets and quotations were nominal at Rs. 44/- for New Crop Firsts—August shipment.

JUTE FABRICS

Hessian. Due date settlements were effected without unusual incident and this gave some degree of confidence to sellers who during the first few days of the month showed reserve. This coupled with a small enquiry for eleven porter hessian had a steadying influence on prices which on 2nd July were :—

		Ready	*July*	*Aug./Sept.*	*Oct./Dec.*
		Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.
9 porters	...	11 0 0	11 1 0	11 2 0	10 14 0
11 ,,	...	15 0 0	15 0 0	14 8 0	14 0 0

Demands from consuming centres however were soon met and with preponderance of sellers rates quickly declined and by 7th July Ready 8oz./40 was being offered at Rs. 10/6/- without attracting business.

On 8th July a report that the Mills Committee had agreed to reduce working hours from 54 to 45 per week had a temporary steadying effect, however within a few days it became evident that overseas buyers were not to be influenced into coming into the market and sellers weakened with a consequent drop in prices. On 12th July the hessian price position was :—

	July			*Aug./Sept.*			*Oct./Dec.*		
	Rs.	as.	p.	Rs.	as.	p.	Rs.	as.	p.
9 porters ...	10	1	0	10	2	0	10	0	0
11 ,, ...	14	6	0	13	12	0	13	8	0

Buying interest in heavy goods at this time had a stimulating effect on hessian and rates became steadier though business was slow. An all round advance of about eight annas was recorded but again this was only temporary and with the continued absence of overseas buying interest, rates subsided once more. Towards the end of the month there was a mild revival and on 31st July prices were nominal at :—

	Ready			*August*			*September*			*Oct./Dec.*		
	Rs.	as.	p.	Rs.	as.	p.	Rs.	as.	p.	Rs.	as.	p.
9 porters ...	10	8	0	10	9	0	10	9	0	10	7	0
11 ,, ...	14	8	0	14	8	0	14	5	0	14	0	0

HEAVY GOODS

There was more interest taken by consumers in this section of the market during the month of July than for some *time past. As a result a fair quantity of goods changed* hands. B. Twills, Liverpools and Cornsacks were in good demand and quotations for these fabrics indicate the general trend of the market. On 2nd July they were as follows :—

	Rs.	as.	p.	
B. Twills	30	0	0	July/September.
Liverpools	32	4	0	,, ,,
Cornsacks	32	0	0	,, ,,

Keen enquiry for Liverpools resulted in the price for July shipment appreciating, but B. Twills and Cornsacks eased off. On 16th July quotations were :—

	Rs.	as.	p.	
B. Twills	28	10	0	July.
Liverpools	33	4	0	,,
Cornsacks	31	0	0	,,

As the month progressed moderate quantities were done at fairly steady rates and the month closed with rates as follows :—

	Rs.	as.	p.	
B. Twills	29	10	0	August/September.
Liverpools	34	10	0	,, ,,
Cornsacks	32	4	0	,, ,,

PRODUCTION AND CONSUMPTION OF JUTE

RAW PRODUCE

According to the *Indian Trade Journal* **jute arrivals** into Calcutta and mills outside the Calcutta trade block (excluding road arrivals and arrivals into mills by boats) were as follows :—

From July 1, to August 3, 1940	... 2,97,000 bales.
From July 1, to August 3, 1939	... 3,55,000 bales.

Exports of raw jute from Calcutta and Chittagong from 1st July, 1939 to 29th June, 1940 and during the corresponding period a year ago were 30,87,000 bales and 39,59,000 bales respectively.

MANUFACTURED GOODS

Manufactures of jute goods during July, 1940 by the mills reporting to the Indian Jute Mills Association are given below :—

Sacking Bags (in 1,000s)	47,616	or	49,008	tons
Hessian Bags (,, ,,)	52,307	,,	11,176	,,
Sacking Cloth (in 1,000 yds.)	10,502	,,	4,192	,,
Hessian Cloth (,, ,, ,,)	143,719	,,	37,404	,,
Others ...	...		4,204	,,
Total ...	...		105,984	,,
Total during June, 1940	...		100,946	,,

The *Indian Trade Journal* reports the following **exports of manufactured goods** from Calcutta during the period from 1st January to 6th July :—

	1940	1939
Sacking Bags (in 1,000s) ...	234,719	208,028
Hessian Bags (,, ,,) ...	580,387	173,683
Sacking Cloth (in 1,000 yds.) ...	34,512	16,972
Hessian Cloth (,, ,, ,,) ...	807,460	597,498

STOCKS OF RAW JUTE

The stocks of **Raw Jute** held by the **Indian Mills** at 30th June are as follows :—

(lacs of bales of 400 lbs. each)

	1940	1939	1938
Mills reporting	19·67	20·63	28·31
Mills not reporting (estimated)	0·25	0·73	1·00
Total for all Mills ...	19·92	21·36	29·31

The following are the **stocks of manufactured goods** (cloth and bags) as reported to the Indian Jute Mills Association by its members :—

	End of July		End of June	
	1940	1939	1940	1939
Sackings (lacs of yds.)	2,554	1,962	2,119	1,864
(tons)	1,07,475	82,016	90,460	77,398
Hessians (lacs of yds.)	2,863*	4,134	2,343	4,504
(tons)	69,743	101,004	56,405	110,376

---

*Out of the total July Hessian stock 338 lacs of yds. represent sandbags and 936 lacs of yds. of 8 oz. cloth weighing 20,643 tons. The Corresponding figures (sandbags) for June were 328 and 988 lacs lacs of yds. hessian cloth (8oz.)

Monthly Variation of Exports

JUTE FROM INDIA

(Figures are in 1,000 tons)

MONTHS	1939-40	1938 39	1937-38
RAW JUTE			
July-Aug.	58·2	83·9	75·3
Sept.-Mar.	383·5	478·3	461·8
February	70·0	69·6	41·4
March	49·5	60·5	53·4
July-Mar.	441·7	562·2	537·1
JUTE MANUFACTURES			
July-Aug.	180·7	171·2	182·4
Sept.-Mar.	691·7	555·7	589·2
February	91·0	78·5	64·3
March	88·8	73·5	67·2
July-Mar.	872·4	726·9	771·6
RAW JUTE AND JUTE MANUFACTURES			
July-Aug.	238·9	255·1	257·7
Sept.-Mar.	1,075·2	1,034·0	1,051·0
February	161·0	148·1	105·7
March	138·3	134·0	120·6
July-March	1,314·1	1,289·1	1,308·7

Foreign demand for jute in raw and manufactured form declined steadily after reaching the peak in January 1940, the total export in March falling nearly 26% below that in January. Such a steady and rapid fall is rather contrary to the experience of previous years. The export of raw jute reached the highest figure of the season in February 1940 but this was followed in March by a heavy fall of nearly 30%, which is comparable only to the fall between the two opening months of the war. There was also a distinct slowing down of exports of jute manufactures after January. The March figure registered a fall of 20% below the peak attained in January. The total foreign consumption of jute during the first nine months of the 1939-40 season, however, was greater than those of the previous two years.

The 1939-40 Jute Season

THE YEAR IN RETROSPECT

AN interesting review of the jute season which ended a few weeks ago appears in the *Bombay Commerce* of August 10, which is reproduced below *in extenso* for the information of the Bulletin's readers :—

Broadly speaking, the jute season which ended a few weeks ago began in almost similar circumstances as has done the current jute season but with this important difference, namely, that the war had not started yet in the former case, whereas it was—and still is—in full swing in the latter instance. There was on the eve of the 1939-40 season, the same question of reducing output under consideration as on the eve of the present season, due to the uncertain outlook for Bengal's golden fibre; in each case the decision taken affected mills' working hours. The trend of American consumption noticeable towards the end of June, 1940, was not very different from that observed towards the corresponding period of 1939.

The 1939-40 season, however, witnessed a series of events of outstanding importance which probably no other year—not even any during the 1914-18 war—did. In a way, there was a certain uniqueness about many of the events of this season. It almost seemed that each of these conflicted with the other; of the policies in respect of jute attempted during the year one had very nearly the effect of considerably modifying, if not radically reversing, an earlier one, while many a hope was left to remain unfulfilled. The Bengal Government's jute policy, the decisions from time to time of the Indian Jute Mills Association, and the jute speculators' experiences all provide instances to the point.

Now that practically all the material data and statistics relating to the 1939-40 season are available—though incomplete, as many of these are, for obvious reasons—we may attempt a retrospect of this eventful season. Almost the first event of note was the decision of the Indian Jute Mills Association to reduce the mills' working hours to forty per week. The Association's original plan, however, was to close down 20 per cent. of hessian looms and 7½ per cent. of sacking looms, but this had to be abandoned under pressure from the Government of Bengal. Thus the very first plan of the year affecting jute was destined to be modified. But even in this modified form, the new arrangements which came into force on 31st July, 1939, did not continue for long. The outbreak of war and the fresh sandbag orders resulted not only in unsealing looms but also in increasing working hours to 45 per week, and later, when the largest order of 50 crores of sandbags was received, that is, in November, 1939, to 54 hours, and then to 60 hours per week, which necessitated the suspension of the relative clause of the Factories Act. But in April, 1940, came a reversion to 54 hours per week and, at the end of the season, the stock position and the outlook for exports necessitated a decision, as already stated, further to reduce working hours. This has since been taken, and, as from the 19th instant jute mills will accordingly work only 45 hours per week.

The increase in working hours following the large orders for sandbags noted above had such a repercussion on prices that the problem of prices received the greatest attention that it did during any season. The course of prices for both manufactures and raw jute during the season makes a striking study in contrast; first there was a sharp perpendicular rise in the index number of jute manufactures from 78 in July, 1939, to 175 in November, 1939, and then there was an almost similar downward drop right up to the end of June, 1940, when the index number stood at 94. In regard to raw jute also, the same trend is noticeable. Thus the index number of raw jute which stood at 57 in August, 1939, after having steadily fallen from 90 in April, 1939 to that level, spurted to 77 in the first war month towards the close of which, however, it experienced a setback consequent on the short-lived Gentlemen's Agreement of the Indian Jute Mills Association not to purchase above a certain level. But the abandoning of this Agreement, necessitated partly by evasion and partly by dictates of the war needs, served to help prices shoot up more markedly than before, so much so that the index number, which had fallen to 76 in October, rose to 119 in November and reached the topmost level in December, 1939 at 130. In January, 1940, came the news of postponement of deliveries of sandbag orders due to shortage of freight space, and this probably explains the fall to 124 in that month. The passing of the Jute Crop Regulation Ordinance in the next month was evidently construed as a bull factor by speculators to take up prices again to the record level of the season of 130, reached, as noted above, in December, 1939. Since then, however there has been a steady fall until in June, 1940, the index number was only 80, that is, just four points above that in the corresponding month of 1939. The withdrawal in March of the Crop Regulation Ordinance, the reduction in working hours from 60 to 54 in April last, the closing of one Continental market after another and, finally, the prospects of a bumper crop in the current season were the several factors accounting for this trend. The fall—a cumulative effect of all these—was accordingly as precipitous as the rise was perpendicular, and this led to the intervention of the Government of Bengal which promulgated an Ordinance fixing maximum and minimum prices in the futures market on 18th May last. But even so prices could not be maintained, especially in June last as markets were affected with considerable uncertainty owing to the European situation. The Bengal Government had in fact to enter as buyers to support the market. The position by the end of the season, however, was slightly better as the result of an agreement of the Bengal Government with the Indian Jute Mills Association, whereby the latter have agreed to pay at certain rates for all purchases until the end of this year. The level of prices is still, however, far from attractive, and there is very little chance for them to improve in the existing circumstances.

REMARKABLE RISE IN EXPORT

Although the position in respect of India's Jute and jute goods at the beginning of the 1939-40 season was not encouraging enough, the gloomy outlook soon yielded place to robust optimism. Hardly had the first two months of the season passed, there came news of the outbreak of the war and recollections of the demand that developed during the last war raised high hopes of many large orders. Indeed by October, the Indian mills had been asked to supply as much as 712 million sandbags. The orders thereafter, however, were few and far between and, by the end of the season, hopes of large orders nearly vanished, Mr. W.A.M. Walker, Chairman of the Indian Jute Mills Association himself declaring that ther was no sign that further orders of such magnitude could be expected. But the orders received were sfficient to make India's exports of jute manufactures in the season reach a very high level. Total exports of these in 1939-40 were valued at Rs. 57,18,50,615 as compared with Rs. 27,92,41,766 in 1938-39. Thus the exports—value—were more than doubled. Details of quantity exported, however, are available only up to the end of January, 1940, that is, for the first seven months of the season. Exports in this period aggregated 692,596 tons as compared with 574,929, tons for the same period in 1938-39, but as deliveries of the sandbag orders extended right to the end of the season, we may, on the basis of the seven-month average, put down the total exports for the whole season at over 1,200,000 tons as against 953,240 tons in the 1938-39 season. There could not have been a similar rise in the quantity of exports of raw jute although the total value thereof at Rs. 20,32,12,849 compared favourably with Rs. 14,60,87,130 in 1938-39. Indeed, applying the basis adopted in the case of manufactures, it is seen that the entire season's exports approximated 586, 200 tons as compared to 693,400 tons in 1938-39. Actual published exports for the first seven months of the 1939-40 season were only 322,200 tons.

In order to meet the increased demand for exports noted above, Indian mills must have consumed in 1939-40 more raw jute than in the previous season. On an average the mills worked over 55 hours per week during the season. At the rate of 54 hours, during 1938-39 total consumption was 66 lakhs of bales, which means that in the 1939-40 season consumption by Association mills alone must have reached over 70 lakhs bales If we add to this the probable consumption by outside mills of, say, some 8 lakhs of bales, total Indian mill consumption would approximate just below 80 lakhs bales.

In order to verify this, as it were, we may briefly examine the production figures. For the whole of the season under review total production aggregated 1,263,171 tons as against 1,093,059 tons in 1938-39. The trend of production in the former case was a steady decline till the end of September, up to when mills were working 40 hours and a steady rise thereafter till the end of January, 1940. As the rate of deliveries of sandbag orders was reduced in February, there was a falling off again, but a new hessian order in March increased the production in that month.

This alternate fall and rise continued to the end of the season, the volume of production falling with every such movement. Thus, the June, 1940, production figure was the lowest in the last eight months of the season. Still, as compared with June, 1939, the production was higher by over 10,000 tons.

The last eight months of 1939-40 registered a record output and the stock position, especially sacking, went on rising. Another factor contributing to this large accumulation of stocks presumably was the capitualtion of France leading to large stocks of sandbags ordered by the French Government but not yet taken delivery of by it being left over with the suppliers. After declining from 19'6 crores of yards in July, 1939, to 10'9 crores of yards in November last, sacking stocks have risen, with but one break in May last, to 21'2 crores yards. In contrast to the trend in sacking, hessian stocks at the end of the 1939-40 season stood at only 23'4 crores yards at the end of June, 1940. From October, 1939, to February last they were rising and falling alternately, while from July, 1939, to the beginning of October, 1939, they also were, like sacking, falling steadily.

OUTLOOK FOR CURRENT SEASON

In conclusion, we may refer to the outlook for the current season. As stated at the outset, this season has begun as did the 1939-40 season with a gloomy outlook, but whereas such outlook in latter case disappeared very soon, the prospect of a similar turn of events this season is so far not in sight; on the contrary, things appear somewhat discouraging. The hope that India's trade with neutrals would make up for the loss in what with enemy countries has been dashed to pieces as one neutral country after another has come under the Nazi sway. Practically the whole of Europe, barring, of course, the U.K., has been cut off. This means that nearly 50 per cent. of our raw jute market has been closed to us. But, for manufactures, the position is comparatively more reassuring, and it is to be hoped that the industrial boom in the U.S.A., on which is centred all the hopes of the industry, will come up to, if not exceed, expectations. If this eventuates, the raw jute position also may improve, for, with increased demand for Indian manufactures, Indian mills will need more of the raw commodity. Notwithstanding this the raw jute position is still fraught with anxiety, judging by the preliminary jute forecast for 1940 which estimates the acreage at 41,12,750, the largest acreage on record, exceeding by nearly 5 lakhs the previous highest acreage of 36,30,000 in 1926.

Problem of Jute Prices

QUESTION RAISED IN LEGISLATURE

MINISTER ON BENGAL ORDINANCES

THE Government policy in regard to the problem of jute prices was raised in the Bengal Legislative Assembly on August 9 on a resulution disapproving the Raw Jute Futures and Hessian Cloth Futures Ordinance of 1940.

While most of the non-official members, who took part in the debate, were of the opinion that the Ordinances had failed to achieve the object for which they had been promulgated, the Finnance and Commerce Minister, H. S. Suhrawardy, maintained that the step taken by the Government in this regard had been fully justified and that if the Government had not intervened at that time, a financial crisis would have resulted.

After nearly three hours' debate the resolution was lost without a division.

Replying to the debate, Mr. H. S. Suhrawardy explained that Government stood by only one criterion, namely, whether the steps they had taken were in the interest of agriculturists or not, and whether their policy of maintaining the price of jute on an adequate level commensurate with the interests of the industry itself, had been dictated by the welfare of the agriculturists. He maintained that all the steps that they had taken in this regard were justified.

He reminded the House that when those Ordinances were promulgated prices of all commodities were declining, and everywhere there was pessimism and panic, and there was almost a danger of a financial crisis. If the Government had not stepped in to maintain the prices of jute and hessian, there would have been a financial crisis and failures of a magnitude which could hardly be imagined. At that time the Government stepped in and kept up the price of jute at a certain level by artificial means if they so liked to describe it. Confidence was gradually injected and prices rose. After an interval, due to adverse world conditions, following the collapse of Holland, Belgium and France, prices began to fall again. For this the Government could not be blamed.

Mr. Walker, the Minister went on, had asked the Government to announce whether they would close the hessian market and whether they would suspend the futures market until they could regulate them properly. The Government the Minister said, were considering this matter and also the ways and means of so regulating the futures market as might prove beneficial to all concerned.

Stocks of Jute and Jute Production

The "Hindusthan Standard" understands that the Government of Bengal are now engaged in the collection of returns of stocks of jute and manufactured jute products in the province in order to arrive in due time at a decision regarding the extent of jute of the 1941 crop.

The Special Officer for Jute it is understood, is now enquiring into the methods and technique through which all such information which the Government are empowered under the Act to procure, may be obtainable.

Personally, the Minister felt that world conditions were such that if the futures markets were opened at this stage they would bring down the prices of jute, and in his opinion it was not adviseable that they should be reopened. He emphasized that by opening the markets at this stage they would be harming the interests of agriculturists.

He assured the House that when the Government embarked on a policy, they would do everything in their power to maintain it.

The Minister added that Government had taken the present step in an open and free manner and after full consultation with representatives of all interests concerned and they proposed to continue this policy.

RAISING OF JUTE PRICES

QUESTION IN LEGISLATURE

In the Bengal Assembly on July 17 Dr. Nalinaksha Sanyal asked:—

"Will the Hon'ble Minister in charge of the Agriculture and Industries Department be pleased to state:—

(*a*) the comprehensive scheme or schemes, if any, approved by Government for the stablisation and raising of jute prices in the Province, particularly in the coming season;

(*b*) the details of the scheme adopted by Government for the purchase of raw jute of the last season through the agency of Messrs. Chhaganmull Tularam of Calcutta;

(*c*) what are the legal power or powers by virtue of which Government have undertaken the purchase of baled jute and have appointed the agents;

(*d*) how the agents and the brokers have been selected and what are the terms under which they have been appointed for the purpose;

(*e*) what maximum financial obligations have been undertaken by Government in this connection; and

(*f*) from which particular provision in the current year's budget the amount required for meeting the obligation is to be found?"

Hon'ble Mr. Tamizuddin Khan said:

(*a*) The fundamental basis of Government's plan for the maintenance and stabilisation of the price of jute is the regulation of future crops commencing with the crop to be sown in 1941. Pending the enforcement of this essential policy and for the purpose of maintaining jute prices at the best level obtainable in present circumstances and in the present conditions of world trade as affected by international events, Government have approved, after negotiations with the trade, an arrangement whereby the mills in India who are by far the largest consumers of raw jute in the world will at least up to the end of December, 1940, pay prices which will not be allowed to fall below the following level:—

	Middles		*Bottoms*	
	Rs.	as.	Rs.	as.
Europeans Jat and Dist. ...	9	8	8	0
Indian Jat	8	8	7	8
Indian District	8	0	7	0

Considering the present uncertainties of the international situation and the consequent uncertainty and difficulty of foreign trading, the loss of markets in Europe, the size of the 1940 crop and all other relevant factors affecting jute prices Government are satisfied that the level of prices indicated by the figures quoted above, which it must be noted is a bottom and not a fixed or top level, is as good as can be obtained consistent with the largest possible consumption of raw jute during the coming season.

It has also been arranged that before the end of December, 1940 representatives of Government and the mills will again meet to discuss the position as it may then be with a view to deciding the lowest level of prices at which the mills can operate for the remainder of the season.

The efforts of Government are at present chiefly directed towards maintaining the effectiveness of the arrangement.

detailed above both by propaganda among the growers whose co-operation is essential and by keeping a watchful eye on market conditions in Calcutta for the avoidance of the artificial depression of prices by panic and manipulation. Measures for the better regulation of loose jute markets in and near Calcutta are being worked out and it is hoped that legislation for this purpose and for preventing the adulteration of jute will be ready for introduction at an early date. Measures for improving the holding power of growers are also under active investigation.

(*b*) The principal details of the scheme adopted by Government for the purchase of old crop through Messrs. Chhaganmull Tularam are, as already announced, that this firm would purchase as from time to time instructed by Government, 'pucca' bales of the quality known as "L.J.A. Actual First Marks" at prices fixed by Government in consideration of sellers' offers in the market; purchases would be made only through a number of firms of experience and high repute in the 'pucca' bale trade; quality of jute purchased would be guaranteed either by the agents themselves or by written 18 months' guarantee of the sellers or settled by arbitrators in accordance with recognised trade custom; jute purchased would be stored by the agents and insurance arranged by them at current standard rates with an Insurance Company of good standing.

Produce markets Bill

The Government of Bengal have introduced the Bengal Agricultural Produce Markets Bill on August 12 in the Legislative Assembly and the motion for its recommittal to the Select Committee as moved by the Opposition has been turned down. The underlying principle of the Bill is to help the agriculturists to obtain a fair price from the marketing of their produce.

The principal terms arranged with the agents and duly embodied in a formal legal agreement with them were as follows:—

Commission ...	1 per cent.
Storage ...	8 annas per bale per annum.
Handling ...	3½ annas per bale for import.
Handling ...	3½ ,, ,, ,, ,, export.
Insurance ...	Current standard rate, which is 1¼ per cent. at present.

(*c*) The ordinary powers of Government to make purchases and appoint agents.

(*d*) The agents and brokers were selected by the Special Officer for jute after consultation with trade interests and their appointment was approved by Government.

The terms arranged with the agents have been stated in answer to (*b*) above. No terms were arranged with other firms who operated on their usual trading terms with the sellers.

(*e*) Government approved expenditure on this account up to a maximum of Rs. 30 lakhs.

(*f*) No particular budget provision. Expenditure has been met from provincial balances.

ASSEMBLY PASS JUTE REGULATION BILL

The Bengal Jute Regulation (Amendment) Bill, introduced by Mr. Tamizuddin Khan, Minister for Agriculture was passed by the Bengal Legislative Assembly on August 6.

The measure met with little opposition in the House, a few amendments that were moved by Congress members being negatived without much discussion.

Moving that the Jute Regulation (Amendment) Bill be *taken into consideration, Mr. Tamizuddin Khan said that the measure had been introduced with a view to implementing* some of the assurances *that* were given on the floor of the House while the original *Bill* was under discussion. The amendments included in it were mostly of a very minor character. The only amendment of substance proposed to give power to the district magistrate to revise records made by the recording officers within one year after the records had been made final.

A few amendments having been disposed of, Mr. Tamizuddin Khan moved the third reading of the Bill which was passed.

PENSION FOR JUTE MILL WORKERS

BENGAL LABOUR MINISTER'S HINT

Replying to a question in the Bengal Legislative Assembly recently, the Hon. Mr. M. S. Suhrawardy, the Labour Minister, hinted at the possibility of all jute mill workers in Bengal being granted pension in the near future. He said the matter had been engaging the attention of the Bengal Government for some time and that he had impressed upon the employers the desirability of granting pension to workers and that many of them were doing so at present.

The Minister further informed that he proposed to have further discussions on the matter with the Indian Jute Mills Association and expressed the hope that he would be able to come to a satisfactory agreement with the Association. He, however, added that there was one great difficulty, namely the want of proper service records.

TRADE COMMISSIONER FOR AUSTRALIA

INDIA APPOINTMENT

A SIMLA message, dated August 6, announces that the Government of India have decided to appoint a Trade Commissioner in Australia.

This may be regarded partly as a reciprocal arrangement following the posting of an Australian Trade Commissioner to India but mainly as a further effort in the recently initiated drive to find new markets overseas for India's raw materials.

Indian Trade Interests in Japan

Mr. E. S. Krishnamoorthy, formerly Under-Secretary, Commerce Department, who has been appointed Indian Trade Commissioner in Japan, will leave India about September 15 and will take over his work in Japan in October.

When Sir David Meek and Dr. Gregory were sent by air to America to find markets for the thirty crores worth of Continental trade which India has lost, the Government's attention was drawn to the urgent importance of sending similar missions to the Dominions, and it is known that over a year ago after a prolonged Australian tour during which he was greatly impressed by Indo-Australian trade potentialities Mr. J. Ramsay Scott of the Central Assembly strongly advocated the early appointment of an Indian Trade representative in that dominion.

Bombay's Fibre Resources

RESULT OF PRELIMINARY SURVEY

THE Bombay Government in pursuance of the scheme for the development of the fibre industry entrusted Mr. J. K. Sircar, Fibre Expert of the Department of Industries, to make a preliminary survey of the fibre resources of the province. In his report Mr. Sircar, according to *Capital*, says that the survey in the important fibre plant-growing districts of Ratnagiri, Belgaum, Ahmednagar, Thana, Poona and Nasik showed that existing plants useful for commercial and industrial utilization are Sunn hemp, Deccan hemp or "Ambadi", aloe fibre or sisal plant linseed hemps and "Kittul" fibre. "Ambadi" hemp is the major fibre crop of the Province, but there is practically no trade in this fibre. Experiments with the existing quality of fibre have shown that if it could be grown and retted properly, it could be utilized for the manufacture of gunny-bagging, sacking, set-sacking for carrying raw-cotton, carpets and unsized twine.

"In view of the present increase in the price of jute bagging and sacking, its manufacture would prove a profitable proposition to the rural population," says Mr. Sircar. "It is, therefore, recommended that spinning and weaving of 'Ambadi' should be introduced in rural areas". Referring to sisal hemp, Mr. Sircar says : "Experimental work has shown that commercial and profitable utilization of existing *Agave* leaves on improved lines would play an important part in the rural economy of the countryside. This can be done by training the villagers in improved methods of extraction of fibre and the manufacture of commercial commodities. To achieve this, the Government has sanctioned one peripatetic demonstration party to teach villagers methods of extraction of fibre with simple appliances and the manufacture of twines and sisal." It is understood, says the report, that the Department of Agriculture is considering the question of determining localities where the *Agave* plant would thrive most by starting 2-acre or 3-acre experimental plantations in the different districts. In view of the present difficulties in obtaining brush materials from foreign countries, Mr. Sircar holds that an investigation into the collection and marketing of "Kuttul" fibre is likely to prove of benefit to villagers and helpful to brush manufacturers. Prices of "Kittul", like those of all other fibres, are expected to increase duo to war conditions.

AMERICAN MARKETS FOR INDIA

DELEGATION TO SUBMIT REPORT

A study of the American market for the export of Indian goods and of the possibilities of obtaining from America some of India's war requirements is at present being made on behalf of the Government of India.

Mr. F. Tymms, Director of Civil Aviation, is at present in America, arranging for the purchase of plant, machinery, machine tools, aircraft and other war essentials for India ; while Sir David Meek, Indian Trade Commissioner in London, and Dr. T. E. Gregory, Economic Adviser to the Government of India, are there investigating the prospect of finding alternative markets for a large range of Indian products hitherto sent to Continental markets.

Indian export trade with the Continent amounted, before the war, to Rs. 30 crores annually.

Sir David Meek and Dr. Gregory are expected to make a report in time to enable the Government of India to place the first results of their enquiry before the Export Advisory Council when it meets in Bombay early in September.

Deterioration of Jute

By Prof. S. C. Barker, with acknowledgement to the "Textile Institute"

(Continued from July Issue)

IT is noteworthy that in no case in these tests, except that of acetylation, which is of course the actual chemical change in the fibre surface itself, did the antiseptic action prolong the life of the fibre more than three times. These results, however, must only be interpreted in the light of micro-organic attack, and must not be judged from the textile point of view; nevertheless they are quite informative. It must be emphasised, however, that for ordinary conditions, jute can be preserved so as to give very much longer performance than is normal and in this regard, it is superior to most other textiles fibres.

When one considers its cheapness plus its remarkable textile and rot-resistant properties, we are justified in stating that no other fibre would do better for sandbag and other work, and few would do as well.

Recently it has been stated that wool sheets made from jute have rotted. In this regard I would suggest investigation of the treatment of such sheets by cuprous oxide, which is now a proprietary product for rot-prevention purposes. There are many methods of rot-proofing for this particular requirement, and there is no need for complaints of this character to occur. In any case, it is unlikely that such rot would be transmitted to the wool, since the prime factors in micro-organic attack on any fibre are dampness and high humidity conditions. In these circumstances, taking into consideration utility, price and every other factor, jute still remains what it was, the best and most economic material for its present uses.

Damage by fungus attack during manufacture, storage and transit is restricted largely to attack by lower fungi, whilst climatic conditions bring into play micro-organism comprising bacteria, fungi and actinomycetes. The lower fungal attack can be countered largely by suitable fungicide incorporation, but since good fungicides are often poor bactericides, this expedient often fails for climatic exposure. The latter incorporates the action of leaching out, volatilisation and sun-light, which all reduce the resistance to micro-organisms of the fabric and also eliminate or render inactive, many inhibitory substances. Climatic exposures are much more exacting than ordinary wear and tear and are more complex, therefore, they form a distinct and separate problem. Thus, for climatic exposures, the ideal inhibitor is one which is only slightly soluble, is non-volatile, and unaffected by actinic rays. It should possess both fungicidal and bactericidal properties. The need for only slightly soluble media implies that the toxic substances will function only when in the closest possible proximity to the place of deposition on the fabric. It should be evenly distributed both on and in the fibre so that every individual fibre and part of the fibre composing the fabric should be affected. Thus we get the trouble arising from uneven application of shielding materials as also of impregnation with antiseptics. The value of protective substances can best be expressed by employing a method of burying in the earth which is active and although it may be drastic, yet it is only representative of possible actual conditions in use. A control can be buried alongside each time and thus the ratio of the time for complete loss of strength can be determined under similar conditions between both treated and untreated material. The variation of tensile strength due to variations in the original fabrics such as jute, renders the exact valuation of the strength difficult. The time for complete disintegration is the final and certain criterion in every case. The following table evaluates the rotproofing qualities of the media tested by taking the ratio for the time for complete breakdown of similar treated material under similar exposure conditions. The first three substances are shielding methods, whilst the others are toxic incorporation.

—	Soil Exposure		Sea Exposure		Ratio of Destruction Periods
	Untreated	Treated	Untreated	Treated	
SHIELDING—					
Latex	...	...	17	35	1 : 2·1
Light yellow aromatic oil	...	...	10	14	1 : 1·4
Aluminium Soap ...	49	49	...	...	1 : 1·0
TOXIN INCORPORATION—					
Cutch	...	...	10	13	1 : 1·3
Chromium/Cutch ...	66	158	...	...	1 : 2·4
Sodium Silicofluoride ...	26	26	...	...	1 : 1·0
Xanthoxin ...	66	60	...	...	1 : 0·9
Proflavine ...	25	60	...	...	1 : 2·4
Acriflavine ...	25	60	...	...	1 : 2·4
2% diphenylamine fluorosilicate ...	26	40	...	...	1 : 1·5
Iron Chromium (Linen)	66	127	...	...	1 : 1·9
Iron Chromium (Cotton)	127	235	...	...	1 : 1·9
Copper Naphthenate ...	66	143	...	...	1 : 2·2
Copper Oleate ...	...	...	25	71	1 : 2·8
Acetylation ...	45	2,645	...	...	1 : 58·8

Agaves and Yuccas of Mexico

THEIR USES AS SOURCES OF FIBRE AND OF LIQUORS

BY J. E. A. DEN DOOP

(Reproduced from the "Industrial Fibres Review")

WHILE I was reading what was said about *pulque* and *mescal* on p. 4 of the January, 1940, issue of the *Industrial Fibres Review*, in the course of a reproduction of an International Institute of Agriculture paper, it struck me once again, as it has many times in the past, how many misconceptions exist, even in otherwise authoritative quarters, about *Agaves* and their uses in Mexico, the centre of origin of the botanical genus *Agave*. Even in Mexico itself, where, of course, many people are well acquainted with details relating to the local *Agave*s with which they are economically concerned, very few have a complete knowledge of the subject, as I discovered last year, when I spent nearly four months travelling in many parts of Mexico.

Some readers of the *Industrial Fibres Review* may be interested in accurate information about the economic utilisation in Mexico of *Agaves* and *Yuccas*, the former belonging to the *Amaryllidaceous*, the latter to the *Liliaceous* plant families. Some hundreds of *Agaves* and about thirty *Yuccas* occur in Mexico. The number of species exploited in Mexico for wider than local market purposes, is however, somewhat restricted in the case of *Agaves* and still more so for *Yuccas*.

"HENEQUEN"

Yucatan, which means "place of Yuccas", is the most south-western of the United States of Mexico. It has a population of only a few thousands, as against 17,000,000 for all the Mexican states. It has little intercourse with the more northern and more populous states, for there is no rail connection; it is also racially distinguished from them by its Maya-Indian stock. However, as regards fibre production, Yucatan is the most important part of Mexico. Progreso is its exit port. By far the largest part of the fibre produced in Yucatan is *heneqüen*, obtained from the botanical species *Agave fourcroyides*, as against *Agave sisalana*, which is the botanical name of the sisal produced in East Africa, the Netherlands East Indies, etc. In Yucatan, the climate is generally too dry for *Agave sisalana* ; *Agave fourcroyides* withstands drought better, but this species also flourishes best in a wetter climate.

The *henequen* industry was extended some thirty years ago from Yucatan to the Victoria region, situated in the middle of the north-eastern coastal plain of Mexico. The sons of Sr. Zorilla, who, in spite of various difficulties succeeded in establishing the industry in this district, are still the owners of the largest fibre firm in the town of Victoria. The small *henequen* industry in the Victoria region is remarkably well run. It exports a few thousand tons of fibre a year through the Gulf port of Tampico, the well-known oil centre, on the Atlantic coast of Mexico.

A very small *henequen* industry has also been developed some 50 miles east of Mazatlan, the Pacific port on the eastern side of the entrance to the Gulf of California.

"IXTLE"

A fraction of the fibre produced in Yucatan is not obtained from *Agave fourcroyides* but from some other, economically much less important *Agave* species, chiefly *Agave ixtle*. This fibre of various botanical sources is called commercially *ixtle*, although in Mexican, *ixtle* simply means fibre. The word *ixtle* is applied in many other parts of Mexico to fibres of various *Agaves* and other plant species. In as far as the latter are of more than local market importance, the name *ixtle* receives a suffix, e.g., *ixtle de palma*, an important kind of fibre which is produced in northern Mexico from one or more of the *Yucca* species.

"MAGUEY"

Whereas in Mexican the word *ixtle* means fibre, the word *maguey* originally designated various kinds of *Agave* plants, inclusive of those from which the alcoholic drinks, *pulque*, *tequila* and *mescal* are produced. These drinks will be discussed later. The *Agaves* from which these drinks are obtained can be simultaneously a source of fibre. The fibres derived from that *Agave* species from which *pulque* is produced are only of local importance. The fibre, which can be obtained from *Agave tequila*, which yields the *tequila* drink, reaches beyond local markets. This fibre is designated commercially *maguey*, the original name for *Agave* plants. Although in former years *maguey* fibre was produced with *raspadores* at factories in the chief *tequila* area, north-west of the town of Guadalajara, on the western side of the high plains of the central part of Mexico, this *maguey* industry for export has recently been abandoned. A small *maguey* industry is, however, still in existence in the *henequen* area, some fifty miles east of Mazatlan, as already mentioned.

Mexican exports of *maguey* should be clearly distinguished from the *maguey* of the Philippine Islands. The latter is derived from the botanical species *Agave Cantala* which is endemic in the surroundings of Acapulco, the Pacific port on the southern coast of Mexico. It is not exploited on a commercial scale for fibre in Mexico, but was transferred across the Pacific to the coast of China and to the Philippine Islands in old Spanish colonial or perhaps in pre-colonial days. In the Philippines a considerable amount of low quality fibre is extracted, chiefly by retting the leaves in blackish water. This Philippine fibre of A*gave cantala* is well known commercially as *maguey* all over the world, whereas the Mexican *maguey*, from *Agave tequila*, is, out-side Mexico, well known only on the Pacific coast of the U. S. A.

Another confusing point in the terminology of hard fibres that might be recalled at this point, is, that *Agave cantala*, which in the Philippine Islands is the source of the Philippine *maguey*, in Java is the botanical source for the high quality product known to world trade as *cantala.* The yearly output in Java is only a few thousand tons.

"IXTLE DE MAGUEY"

As *ixtle* and *maguey* each designate a commercial kind of Mexican fibre, *ixtle de maguey* might easily cause confusion as a name for a Mexican fibre in world trade, but it is only of importance in the local market of San Luis Potosi, on the high plains on the Atlantic slope west of Tampico. It is extracted from an uncultivated, rather small, member of the botanical group of the *pulque Agaves,* and is locally used for making twine, ropes, sacks, and other purposes.

"IXTLE DE LECHUGUILLA"

What in Mexico is known commercially as *ixtle de lechuguilla,* is in world commerce known as *Tampico* fibre. World trade also recognises *Jaumave* and *Tula,* which are varieties of *Tampico* fibre. *Tampico* fibre should be distinguished from the *henequen* exported from Tampico, *i.e.,* the *henequen* of the Victoria region, and also from the *ixtle de palma,* a fibre also exported from Tampico, which will be referred to later.

Ixtle de lechuguilla is produced in the high plains of the southern part of northern Mexico, as far south as San Luis Potosi, west of Tampico, and on the eastern slopes of this plateau. *Ixtle de lechuguilla* is the only high quality white, vegetable brush fibre known. It became known as such in Europe in 1852. It is extracted by hand scraping from the central buds of various wild growing *Agaves, Agave lophanta pilgeri* (in Jaumave), and *Agava heteracanta* (in Tula) being the most important. Some 8,000 tons of this fibre are exported yearly from Tampico, whereas less than a thousand tons go by rail direct to the U. S. A. Some is also exported from Tampico as "dressed" fibre, called in Mexican Customs language *lechuguilla preparada y cortada* meaning "prepared and cut lechuguilla". *Tampico* fibre is of high economic importance to Mexico and to some others concerned in the trade, as the cost of production is not much greater than for *henequen*, whereas the f. o. b. price is much higher, *viz.*, up to five times that of *henequen*. Where the difference goes would make quite a story by itself, but this will not be told here.

"IXTLE DE PALMA"

This fibre is after *henequen* and *ixtle de lechuguilla* the most important leaf fibre produced in Mexico, although its f. o. b. price is appreciably below that of *henequen*. Its botanical origin is one of more related *Yucca* species or varieties of the type with comparatively juicy leaves. It is obtained by hand scraping from the central buds of the *Yuccas* after these have been steamed in a special way. The yield of fibre is some 30 per cent. of the fresh buds, which are collected from wild growing plants. Its area of production is in the high plains of northern Mexico, an important centre of production being Saltillo to the west of Monterey, one of the three largest towns of Mexico and situated in the midst of the north-eastern coastal plain. An important amount of *ixtle de plama* in exported from Tampico, although most of it is nowadays used in Mexico for cheap twine, ropes, etc., and specially for sack making. Sacks made of *ixtle de palma*, provided with a crepe paper inlay, are extensively used for the internal sugar trade of Mexico.

It might be mentioned here, that in Mexico *henequen* is also being extensively employed for sack making ; these sacks are largely used in that country for coffee and minerals.

COTTON

Although this is not a leaf fibre, it may be mentioned that in addition to some kapok, cotton is the only other fibre of more than local importance in Mexico. Cotton is produced quite extensively in the western part of the high plateau of northern Mexico.

"PULQUE"

This is a drink of low spirit content which takes in many parts of Mexico the place held by beer in a number of countries. It is obtained from several rather closely allied *Agaves* of the type of *Agave atrovirens.* The well-known, ornamental, *Agave americana* is related to the group of the *pulque Agaves,* and its appearance, as dominated by its calix-shaped leaves, may be taken as typical for the group ; some grow quite tall (up to about 10 ft.). The Mexican word "maguey" in as far as it is used to designate a plant, is in the first place applied to these *pulque Agaves.* The *pulque* is prepared by fermentation in rather primitive factories, some of them quite large, from the sap, which before fermentation is called *aqua miel,* i. e., honey water. It is very similar to the sap obtained in various tropical countries from the inflorescences of various palms such as coconut. When the *pulque Agaves,* at the age of seven or more years, show signs of poling, the central bud is jerked out in a way that is known to be possible in the case of sisal plants. The other leaves are left intact as far as possible, a few pieces being cut out with a view to making it possible to detach the central bud and to reach the cup formed in the top of the stem. From this cup, with a diameter of about a foot, the small central heart, which otherwise would develop again, is carefully removed. After these operations the plant is left undisturbed for about six months. Then tapping begins. This consists of scraping a thin layer once or twice a day from the tissue of the inner cup, just as a thin slice of bark is cut away periodically in rubber tapping. By periodical tapping the plant sap is stimulated to run from the surrounding tissue into the cup, from which it is collected once or twice a day. The daily output may be from 5 to 10 litres of juice per plant ; and the tapping may continue for six months before the plant is exhausted.

Pulque production is quite a big national industry in Mexico. There exist many specialised *pulque* farms, whereas in typical *pulque* regions every farmer plants *pulque Agaves* on the boundary of his maize, wheat, barley and bean fields ; often these fields are interspersed with *pulque* plants in wide spacing. The chief *pulque* region of Mexico is the high central plateau at about 6,500 ft. altitude in the south-central part of the country. Around Mexico City *pulque Agaves* are among the characteristic features of the countryside.

"MESCAL" AND "TEQUILA"

Much confusion of ideas exists in regard to the alcoholic drinks *mescal* and *tequila,* even in those parts of Mexico itself where they are not produced. The name *mescal* is the more generally used. *Tequila* is a high quality *mescal,* produced chiefly in the region of the small town of *Tequila,* from which it derived its name, whereas the town of Tequila derives its name in turn from the mountain of Tequila, which dominates it ; this is situated some 27 miles north-west of Guadalajara in the western part of the high central plateau. *Tequila* is also manufactured, although only on a small scale, on the Pacific coast, some 50 miles east of Mazatlan, as has been mentioned in conjunction with the Mexican fibre known as *maguey,* which is extracted from *Agave tequila.* There are various botanical varieties, more or less suited for *tequila* production according to the varying conditions of climate and soil. In the region of the town of Tequila tens of thousands of acres are covered with *tequila Agaves.* The fields are carefully planted and well kept, especially during the three first years, when maize and/or beans are usually interplanted. The plants are harvested, when the poling stage is coming on, i. e., usually some seven or more years after planting. Nowadays no fibre is extracted for export purposes from the leaves of the *tequila* plants in the region of the town of Tequila. Some hand scraping still goes on for local purposes when labour is plentiful. Nearly all the leaves are left in the field without further use.

The part of the plant utilised in *tequila* production is the stem together with the butt ends of the leaves, which are left attached to the stems. The *tequila* stems, called in Mexican *cabeza* (head), are more ball-shaped than those of sisal, and may weigh more than 132 lb. each. They are cut into two halves in the field, and transported to the distillery. They contain up to 15 per cent. of sugar. In the distillery they are steamed, cut into pieces and crushed. The resulting liquor is fermented and the fermented material is distilled as a whole, the first yield being some 22 per cent. of alcohol, the following rectification yielding more than 50 per cent. Many coarse and fine brands are manufactured. In Mexico, *tequila* is what whiskey is in Scotland or wine in France.

Besides *Agave tequila* with its many varieties, other *Agaves* are used in Mexico for spirit distillation. These are called in general *mescal* ; sometimes inferior qualities of *tequila* distilled from *Agave tequila*, are also designated by the name *mescal*. *Henequen* stems are also being used in the *mescal* industry, as in the Victoria *henequen* region. *Agave cantala* is suitable for *mescal* production. In all these species, however, the sugar content, and consequently the yield of alcohol, is much lower than with *Agave tequila*.

U. S. A.

IMPORTS OF RAW JUTE AND JUTE GOODS

IMPORTS of raw jute goods into U. S. A. according to the statistics compiled by the U. S. A. Department of Commerce are given below :—

Product	Countries of origin	April 1940 (Tons)	March 1940 (Tons)	April 1939 (Tons)
Raw Jute ...	British India ...	4,904	5,937	7,180
Jute Butts ...	„ „ ...	261	171	130
Total Raw Jute and Butts ...	...	5,165	6,108	7,310
Burlap ...	British India ...	6,547	16,172	11,323
	United Kingdom	1,035	1,411	948
	Belgium ...	202	68	405
	Italy ...	...	...	311
	Others ...	...	...	629
	Total ...	7,784	17,651	13,616
Jute Bags and Sacks	British India ...	969	1,959	...
	United Kingdom	...	...	...
	Argentine ...	2	1	...
	Canada ...	...	2	...
	Total ...	971	1,962	857

HESSIAN STOCK AND CONSUMPTION

Hessian stock and consumption figures of the United States of America excluding the Pacific Coast business, as reported by the Indian Jute Mills Association, are given below, the figures being in millions of yards :—

	May		June		July	
	1940	1939	1940	1939	1940	1939
Stock	276	271	294	265	295	260
Consumption	53	50	49	47	54	47

NEW YORK PRICES

The *Daily Mill Stock Reporter* quotes the following prices of Raw Jute and Jute Goods prevalent in the New York Market, all the prices being nominal :—

Date.	Raw jute (Native Firsts) Cents per lb.	Burlap (Hessians) Cents per yd.		Old Bags Cents per bag	
		8 oz. x 40s.	10 oz. x 40s.	100 lb. sugars	140 lb. starch
May 14, 1940 ...	7·40	6·55	7·90	3·63	6·38
May 21, 1940 ...	7·30	6·55	8·00	3·63	6·38
May 28, 1940 ...	6·90	6·05	7·50	3·63	6·38
June 5, 1940 ...	6·95	6·05	7·55	3·38	6·13
June 12, 1940 ...	6·85	5·90	7·35	3·38	6·13

(Continued at bottom of page 346)

British Jute Markets

URGENT ORDERS EXPECTED AT DUNDEE

CALCUTTA EXPORTS NOT UP TO STANDARD?

REVIEWING the British jute markets on June 19, the correspondent of *Capital* writing from "somewhere-in-the U. K." reports that in spite of the possibilities of invasion, the markets are being carried on in the usual manner. Uncertainty in regard to the future naturally tends to restrict business to some extent but on the whole, there is a quite steady trade going on, even for delivery some months ahead. The war has taken on a much more serious aspect and buyers are just a little afraid of what the Jute Control may yet do. Should there be any suggestion of limitation of supplies of both raw jute and goods from India, complete control of these may be put on and the Government may decide to take over all available supplies for their own use, perhaps leaving consummers to obtain a certain percentage of what they have now on order. The Jute Control has intimated that all Government orders will, in future, be tendered for to the Control and allocations of quantities to be supplied will be made through that office. This will save time and it will also ensure that those firms which can deliver

NEW ORDERS
CO-ORDINATION OF EFFORTS

New orders, to take the place of Government orders which came to an end last month, did not come up to expectations, states the May number of the Jute Review. The new export drive which is about to be started, it is hoped, will bring in new business. But here, too, the spread of the war to Scandinavia has meant the loss of a good market.

It is not easy to pick up new business in markets overseas, but co-ordination of efforts from Dundee and the Government might overcome the difficulties which now stand in the way of larger sales to neutral countries. The possibilities are better than they have been for some years.

quickly will receive the orders. Much will depend upon the amount of shipping available as to the quantity of gunnies which will be brought to this country from India. Already, there are very large supplies of Calcutta goods lying at all ports and warehouse accommodation for the goods is taxed to the limit. Dundee spinners and manufacturers have even suffered the indignity of being asked to take these goods into their warehouses. The Government may, therefore, decide that they have received sufficient jute goods from India and may use up the shipping space for other commodities, telling any consumers who may complain that they can apply to Dundee manufacturers for their requirements. Dundee would be glad of the opportunity meantime to receive orders, as quite a number of works are still running short time, while others have a percentage of their machinery standing.

Urgent orders are expected to come to Dundee to take the place of those which the Belgian and French jute mills and factories are now unable to produce. Most of the French jute mills were situated in the territory now occupied by the enemy. In addition, flax supplies and also hemp are extremely limited and it is quite on the cards that jute yarns and cloth will be substitued to manufacture the goods made from these fibres, and which are in urgent demand, especially

(*Continued from page 342*)

IMPORTS OF SISAL AND MANILA HEMP

Imports of Manila hemp into the United States in the month of April last amounted to 5,062 long tons, records the preliminary figures issued by the United State Department of Commerce. These imports originated 4,600 tons in the Philippine islands, and 461 tons in the Netherland Indies.

Sisal imports in April were 10,719 long tons with principal imports 5,372 tons from the Netherland Indies, 2,836 tons from Mexico, 1,943 tons from British East Africa, 539 tons from Haiti and 410 tons from Cuba.

for Government requirements. Soldiers' equipment can be made with jute yarns and vast quantities of these are likely to be needed, not only to replace what has been lost in the retreat in France and Belgium, but also to equip the many thousands of recruits being steadily called up. The equipment will, of course, be made from stronger cloth than the ordinary 10 oz. hessian, and also contain a certain proportion of flax yarns. The scarcity of cotton warps is hampering the work of those firms who specialize in the manufacture of union goods.

I hear that the quality of the jute being exported from Calcutta is not up to standard and shippers are even using ropes on the bales which are not of jute material. Arbitrations are still fairly numerous on parcels of jute arriving in this country.

Dundee Prices

According to the telegrams received by the *Statesman* on London Commodity Markets, the prices of raw jute in Dundee were as follows :—

——	22nd July 1940.	29th July 1940.	5th August 1940.	12th Auguts 1940.	19th August 1940.
Firsts (£ per ton) ...	33	33	33	32½	31½
Lightnings (£ per ton) ...	30	30	30	29½	29

DUNDEE JUTE ARRIVALS

According to the *Jute Review* raw jute arrivals in Dundee amounted to 672, 675 bales during this season up to the end of March, as against 835,544 bales last season. Total visible supplies amounting to 855,864 bales were, however, only 8% smaller as larger quantities were afloat than used to be.

Japan

IMPORTS OF JUTE AND GOODS

IMPORTS of jute, jute goods and substitute fibres into Japan as recorded in the *Monthly Return of the Foreign Trade of Japan* for March, are given below, figures being in 100 kin*:—

	March 1940	January—March		
		1940	1939	1938
Jute	19,151	56,718	90,753	72,238
Tissues of Jute	795	1,794	31,250	226,769
Manila Hemp	56,315	185,738	187,438	122,001
Hemp	2,989	23,453	16,735	12,036
Flax	6,015	14,034	15,982	9,540
China Grass and Ramie ...	10	30,462	28,093	2,018
Others	4,318	18,906	29,437	44,818

*1 kin = 1·32 lbs.

DIFFICULTIES OF HUNGARIAN MILLS

The difficulties which Hungarian flax and hemp mills experience in securing raw material is revealed in the annual report of the Szegeder Hanfspinnerei A.G., Szeged, states the *Jute Review* of May. The company reports that after the outbreak of war, the trade rushed to fill up stocks and that meant an increased demand for hemp goods. The company was unable to satisfy the increased demand of its clients because of difficulties in obtaining sufficient raw material. The gross profit of the company rose from 4·7 to 5·8 million Pengo, the net profit from 605,000 Pengo to 800,000 Pengo.

Jute Mill in Turkey?

The Turkish correspondent of the "Jute Review" reports that plans are under consideration for the establishment of a jute sack mill in Istanbul. No details of the actual scope of the factory have been fixed so far.

Egypt

IMPORT OF JUTE AND GOODS

IMPORTS of raw jute and jute goods into Egypt during the month of April and the first 4 months of the year as recorded by the *Monthly Summary of the Foreign Trade of Egypt* are given below :—

Products	Unit	April 1940	4 months January—April 1940
Jute Raw	K. G.	...	26
Jute Yarn, folded unbleached thick	K. N.	57,196	70,862
Carpets (Jute pure)	„	933	5,510
Jute Sacks for Cotton ...	K. G.	343,717	946,913
Share of India	„	342,593	937,092
Jute Sacks for Sugar ...	„	71,859	201,837
Share of India	„	71,859	201,837
Jute Sacks for Seeds ...	„	256,360	1,067,425
Share of India	„	256,360	1,032,235
Jute Sacks for Onions ...	„	237 478	956,809
Share of India	„	237,478	956,289
Jute Sacks for articles not specified	„	821,412	2,273,600
Share of India	„	803,241	2,237,030
Jute Sacks reinforced with paper	„	53,292	54,442

Jute Industry in Switzerland

POSITION AT OUTBREAK OF WAR

THE rise of the jute prices after the outbreak of war placed the Swiss jute industry in a difficult situation, reports the *Jute Review* of May. The authorities were reluctant to agree to considerable price increase. Recently new maximum prices were fixed.

During last year 7,551q. of raw jute were imported into Switzerland, 20% more than during the previous year.

Yarn imports fell to 1,010q., less than half the quantity of 1938. The following countries supplied yarns to Switzerland :—

	1938	1939
	Quantity in q.	
Great Britain	269	397
France	1,036	379
Belgium	321	117
Czecho-Slovakia	356	...
Germany	138	116

Purchases of jute cloth abroad were fairly well maintained. Last year 30,721q· worth 2·47 million frcs. were imported, only 6% less than in 1938.

	1938	1939
	quantity in q.	
Belgium	12,870	9,118
Czecho-Slovakia	7,677	6,582
Hungary	3,845	1,054
Germany	2,408	4,212
France	2,181	5,722
Holland	1,260	922
Great Britain	980	154
British India	1,110	2,095
Italy	...	255

The Swiss jute industry succeeded in building up an export trade in sacks. Last year 1,808q. were exported, out of which 1,089q. went to Egypt and 718q. to Holland. In the previous year only 494 tons were exported. Imports of sacks into Switzerland are now insignificant, amounting to only 93q., while in the previous year 1,996q. came from abroad.

Jute Industry in Brazil

ACCORDING to the *Daily Mill Stock Reporter*, imports of raw jute and jute goods into Brazil and also the port of Sao Paulo during the last three years are as follows, figures being in metric tons :—

		1939	1938	1837
Brazil	...	26,732	30,515	34,512
Sao Paulo	...	19,455	17,912	21,220

More than 80 per cent. of these imports is raw jute from India, the remainder being mostly jute yarn. In 1909, more than 70 per cent. of the imports of jute and jute products entered the country through Santos, the leading port of Sao Paulo. The State of Sao Paulo has 11 jute spinning and weaving mills which produce annually an average of more than 40,000,000 meters of jute cloth. The cloth is used mostly in the making of bags, 1½ meters being required for a coffee bag.

The importation of woven jute sacking is practically nil, owing to the duty of 3·718 milreis per kilogram. As a result of the advance in the price of raw jute since the beginning of hostilities, production costs of jute bags have increased considerably. The price of raw jute prior to the hostilities was £26 per metric ton, c. i. f. Santos ; it subsequently rose to £90, and in the early May was approximately £70.

SMALLER BRAZILIAN JUTE ARRIVALS

Jute arrivals in Brazil amounted to 2,002 tons in November, 1939 and were the smallest experienced during the last five years, reports the May issue of the *Jute Review.* At the same period of the previous year, arrivals of raw jute came to 2,633 tons.

During the eleven months ended November, 1939, 22,801 tons of raw jute were imported, 18% less than the year before.

Jute Substitutes

EXPERIMENTS WITH "JUTITAL"

THE experiments with "jutital" carried out in Italy have not yet progressed over the experimental stage. "Jutital" is a fibre extracted from the typha plant. When first announced it was claimed that "jutital" could be used to replace jute completely, states the May number of the *Jute Review.* Meanwhile, further experiments have proved that the problem is far from being solved and no production of goods from this fibre has been started on a considerable scale so far. *Typha* was tried without success in Germany during the last war. It was found that the fibre was too brittle and of little use and the experiments had to be abandoned. Dr. Angiolini claims to have found a better method of decortating the fibre.

Better progress has been achieved with "Ginster" (furze), the other Italian jute substitute. But here, too, in the course of practical tests on a larger scale new problems cropped up which have not yet been solved. The acreage under "Ginster" has been largely increased and the Italian authorities seem to attach much importance to the use of "Ginster" as jute substitute.

ESPARTO AS JUTE SUBSTITUTE

Experiments in the use of esparto grass as admixture for packing cloth have been carried out in Spanish mills in Cieza, near Murcia. It is reported that methods have been developed to manufacture a cloth consisting of 20% hemp and 80% esparto which has good properties to be used as packing cloth and in the manufacture of shoes. This cloth mixture is intended to replace jute cloth used for this purpose up to now. It will, however, take some time till any large scale production can be started.

(Continued at bottom of Page 353)

Fibre From Linseed Straw

OTHER ALTERNATIVES TO FLAX

THE following extracts taken from the report of the Imperial Institute deal with fibre extracted from linseed straw, and other alternatives to flax :—

Suitability of linseed fibre for spinning: The question of the technical suitability of linseed fibre for spinning has long been under enquiry, but hitherto technical opinion has been definitely negative on the subject. Broadly speaking, the two types of *Linum* plant cultivated are quite distinct ; the linseed flax plant is cultivated to produce many flowers and seed-vessels, and, with this object, branching is encouraged to afford as many flowering stalks as possible ; it is shorter than the fibre plant and in some varieties may even be somewhat bushy. The fibre flax plant, on the other hand.

(Continued from page 352)

MANILA HEMP

STOCKS AND SHIPMENTS

The monthly fibre statement issued by Hanson & Orth, New York, and in England by their London Agents, Balfour, Williamson & Co., Ltd., 7, Gracechurch Street, London, E.C. 3., shows net stocks of Manila hemp in the Philippines on May 1 as 210,000 tons, against 239,000 tons on that date in 1939. In the four months ended April 30, receipts at all Philippine ports amounted to 423,000 tons against 479,000 tons in the first quarter of 1939, states the *Industrial Fibres Review* of June.

Shipments to the United States and Canada were 139,500 tons against 110,000 tons, to the United Kingdom and Continental Europe, 127,000 tons against 193,500 tons, and to other destinations 133,000 tons against 120,000 tons ; total exports were 399,500 tons against 423,500 tons in the first four months of 1939.

is required to be as tall as possible, with minimum branching, and slender stems, in order to furnish the longest and straightest run of fibre with the minimum of wood (shive). There is a continuous (and successful) effort to enhance these qualities. The fibre obtainable from the shorter, awkwardly-branched and stouter linseed stem is shorter and coarser and, since it is necessary to allow the seed to become fully ripe before harvesting, the fibre tends to become harsh and lacking in "quality". It is, therefore, regarded as unsuitable for spinning purposes, especially with modern machinery.

The view may be allowed that so long as ordinary spinning flax can be obtained at any feasible price, fibre prepared from ordinary linseed straw will be rejected by the spinners ; but only they could say whether in the virtual absence of ordinary spinning flax fibre use could, or could not, be made of the short coarse fibre from linseed straw. There is however the probability that among the numerous races of *Linum* grown for linseed there are some less branched and taller than others, which do not yield even when ripe, a fibre totally unsuited for spinning ; and if special methods could be devised to obtain fibre from such plants, flax suitable for the coarser and of the flax manufacturing industry might be available.

The following statement (of German origin) contrasts linseed fibre and flax fibre :—

		Linseed fibre	*Flax fibre*
Height of plant	...	30-60 cm.	70-120 cm
Content of fibre	...	12-18 per cent.	20-24 per cent
Quality of fibre	...	poor	good to very good
Yield of Straw	...	15-20-30 dz/ha	30-40-50 dz/ha

A comparison of linseed straw and Courtrai flax straw received at the Imperial Institute gave the following results :—

		Linseed Straw	*Courtrai Flax*
Length	...	609 mm.	790 mm.
Width (Top)	...	1.92 mm.	1.21 mm.
(Centre)	...	2.55 mm.	1.98 mm.
(Root)	...	2.83 mm.	2.20 mm.

The fibre obtainable from ordinary linseed straw if carefully prepared might be found suitable for use as flax tow.

The utilisation of linseed straw for producing "cottonised" flax is of course a separate question. The process aims at separating the "ultimate" fibres of the flax strands—these are about 1 inch long and excessively fine and can be successfully spun in admixture with cotton. Such use of linseed straw, however, does not directly help the flax scarcity.

Flax fibre from Linseed straw: So far as can be ascertained there is no country within the Empire producing linseed as a crop which also prepares spinnable linen fibre as a regular commercial by-product from the straw (stems) of the harvested plants. There are, however, indications that in the case of India (which with Canada is the only British country growing linseed on a commercial scale) there is a possibility of obtaining perhaps small supplies of spinnable flax from linseed straw. The question has long been under experiment in India and the suggestion made above is based on the following statement made in the Report for 1938 of the Department of Agriculture in the Central Provinces and Berar (p. 21) :—

"The possibility of converting linseed straw into useful products received attention. Methods of retting suited to village conditions were studied and simple methods of extracting the fibre were evolved. The fibre so obtained is somewhat weak in comparison with other commercial fibres but an English firm to which a sample was submitted for opinion considered that it could be used for spinning and weaving with other fibres, or even alone after being cottonised. The Oilseed Specialist has manufactured rope from it which in his opinion can replace rope made from sunn hemp. That opinion, however, requires verification".

The Director of Agriculture is Mr. J. C. McDougall whose office is at Nagpur. In the United Provinces also work has been undertaken with the same object in view, but no positive results have yet been obtained. The Report of the Department of Agriculture for 1938 (p.50) states that "in the course of actorial study of hybrid linseeds some tall plants 120 cm. in height were isolated which have been found to breed true and may have economic value for extraction of fibre".

Commenting on the work of the two Departments the Imperial Council of Agricultural Research, New Delhi, in a report recently furnished to the Imperial Institute through the High Commissioner states :—"The oil seed specialist of the Central Provinces has evolved a cheap method of extracting fibre from linseed straw which is at present wasted in huge quantities in India. Similar experiments were conducted in the United Provinces also. The fibre though too coarse for textile purposes can be 'cottonised' and spun in cotton mills".

If the process developed in the Central Provinces can be demonstrated as a practicable proposition producing a serviceable fibre, then the possibilities in regard to India are obviously very great.

As regards Canada, it would seem that there is little prospect of supplies of fibre being obtained from linseed straw. In August 1938 the Imperial Institute received through the High Commissioner a statement from the National Research Council of Canada that " while the main production of flax in Canada is for seed for the extraction of oil this has fallen to very small proportions in recent years, far below the quantity required for domestic consumption." Even assuming that fibre from linseed straw were prepared technically acceptable for spinning, it seems doubtful if there would be much response to requests for extended production of such fibres in Canada in view of the efforts being made there to grow high-quality flax fibre : the effort expended would be better devoted to the high quality fibre. Inquiries regarding Canadian possibilities might be addressed to Mr. R. J. Hutchinson, Chief of Fibre Division, Central Experimental Farm, Ottawa, or to the President, National Research Council, Ottawa.

Small quantities of linseed are also raised in Australia and New Zealand, but from special inquiries made at the respective Government offices in London it is clear that no fibre is prepared from the straw, and none is likely to be so prepared.

Efforts have been made in U. S. S. R. to produce a dual purposo crop from *Linum* grown essentially for linseed. Such crops in 1932 were said to cover 747,000 hectares in the Union the largest single area being in the Ukraine. There seems to be no evidence, however, that flax fibre obtainable from such plants has been used for textile purposes ; attention appears to have been given to the possibilities of " Cottonising" the fibre, but here again no definite results appear to be recorded.

ALTERNATIVE FIBRES

Of purely alternative fibres of flax, it is not possible to suggest one which is a " by-product " of another industry except, perhaps, a " hemp " which theoretically at any rate should be obtainable from the stems of *Cannavis sativa* grown in India for the resinous drug. The Imperial Council of Agricuitural Research could say whether such a proposal is practicable, or not, even as an exceptional war measure. It should be remembered, however, that the Indian hemp plant is branched and that it is allowed to reach a state of maturity which might be inimical to the production of satisfactory fibre. Nevertheless, hemp for *fibre* is stated to be grown in the Punjab and Sind though the production is not large. The question of supplies could be dealt with by the Imperial Council already mentioned.

Sunn hemp (*Crotalaria juncea*) and Hibiscus fibres may be suggested as possibly worth consideration, not as equivalent substitutes for flax but as inferior alternatives perhaps usuable in mixtures with flax. The fibres are well known in the trade and flax spinners and manufacturers would be able to say whether as an emergency measure they could utilise them. There is also the question whether for some classes of manufacture (including civil government as opposed to service requirements) flax is an absolute necessity under temporary war conditions ; the truth is probably to the contrary.

Sunn hemp and *Hibiscus cannabinus* fibre (Bimlipatam jute, Decan hemp) are primarily Indian fibres and their shipment would present the same (shipping) difficulties as jute itself. The Imperial Institute however has examined samples of *sunn hemp*from Southern Rhodesia and the Sudan. There is little doubt that with proper attention to methods of preparation, a satisfactory fibre could be produced in Southern Rhodesia, and production on a commercial scale has been considered with a view to local manufacture of sacks. In December 1938 the Imperial Institute was informed by the Rhodesian Co-operative Fruit Growers' Association, Ltd., Salisbury, that sunn hemp was " produced in large quantities in this and adjoining territories " with a view to ultimate export.

Samples of sunn hemp grown in the Equatorial Province, Sudan, have also been reported on by the Imperial Institute and found to be of promising quality. Production is as yet on a small scale only, but the Department of Economics and Trade, Khartoum, would probably be in a position to organise useful supplies.

The Imperial Institute also understands from an officer of the Nigerian Agricultural Department on leave that his department would probably be glad to organise the production of sunn hemp even as a war measure only, if desired ; he considered that the soils of the Central Province and Illorin offered special opportunities in this connection.

Sunn hemp may be regarded in this country primarily as a substitute for true hemp (*Cannabis*) and has been used almost exclusively for admixture with Italian and Hungarian hemps for the manufacture of rope cordage and twines. How far it could be used in place of flax would seem to depend ultimately upon the urgency of the need. Since hemp (*Cannabis*) can be used in mixture with flax, sunn hemp might well be considered in this connection.

Hibiscus fibres being typical soft fibres, are to be regarded essentially as jute substitutes as is indicated by the growing production of Java Jute (*Hibiscus Sabdariffa*) in Java as a substitute for jute hitherto imported from India ; the impossibility of their use in place of flax depends upon a decision as to how far flax is essential for all the purposes for which it is normally employed. Any calls on these fibres for such purposes would compete with similar calls made by jute manufacturers to ease the position of their staple fibre.

Hibiscus cannabinus fibre (Bimlipatam Jute) is the most important Empire fibre of this class. Indian supplies would doubtless be absorbed by jute interests. Satisfactory or promising samples of the fibre from the Sudan and Southern Rhodesia, however, have been examined at the Imperial Institute and small but increasing supplies could probably be obtained from these countries in consultation with the appropriate authorities. The fibre is also well-known in Egypt, which country might also be considered in regard to supplies. There is little doubt too that production of this fibre could be organised (through the Directors of Agriculture) in other countries, e.g. Nigeria, East Africa, West Indies (Trinidad). There is little difficulty in raising the plant, and the preparation of a satisfactory fibre is largely dependent upon proper retting which is not difficult to secure. A proposal has been made by an Australian worker (Dr. Brown) for the preparation in Australia of Ramie fibre by a "new" process, having as one of its objects the utilisation of *ramie fillasse* as an alternative to, or admixture with flax. Dr. Brown has just returned to Australia, but the High Commissioner in London is in touch with him and has arranged to report to the Imperial Institute any progress made in this venture.

It is necessary to do more than mention stinging nettle fibre (*Urtica*) of which considerable use was made in Germany today. Preparation of such fibre ·in this country seems highly unlikely, and any labour devoted to such a project would be better employed in Flax production.

Flax:—In considering available alternative fibres to flax recognition is assumed of the fact that the solution of the flax difficulty lies in the production of more flax; in Northern Ireland, Great Britain and overseas Empire countries, in that order. Among the latter, Canada (followed by Kenya) probably holds out the largest promise, for Australian· and New Zealand productions, still very small, will probably be taken for local industries. Mr. Hamilton (New Zealand Government Office), however, considers thal official intimation from the Ministry of supply that flax is urgently needed in the United Kingdom would give an (apparently) needed stimulus to New Zealand production with the likelihood of support to this country.

In Canada a report prepared for the Imperial Institute in 1939 by the chief of the Flax Division of the Department of Agriculture,, Ottawa, states that in 1938 the area under fibre flax in canada was 10,225 acres, yielding 2,682,000 lbs. of fibre, 2,246 tons of upholstery tow and 77,992 bushels of seed. The tow was derived from 2,530 acres, while of the remaining 7,695 acres the straw from 4,600 acres was converted into tossed flax and fom 3,095 acres line fibre was prepared. Incidentally it may be mentioned that a few hundred tons of Canadian flax tow and 20-30 tons of Canadian flax fibre have been imported annually in recent years by Messrs. Fyfe, Davie & Co., Ltd., 11 Union Street, Glasgow.

In India the position, as described in a report recently prepared for the Imperial Institute by the Imperial Council of Agricultural Research, New Delhi, is that there are great possibilities for producing flax of high quality. Special attention has been paid to the subject by the Department of Agriculture, Bengal. The Government of Bengal have recently voted 30,000 rupees (over three years) for further experiments, but it is clear that good flax could be produced in quantity without further delay. The chief factors which have hindered flax production hitherto are (a) want of capital for processing machinery, (b) ignorance as to the future of the crop, (c) want of facilities for marketing abroad. As to (c) some of the jute mills in Bengal have already experimented with the spinning of flax; if successful developments of a local industry would obviate need for export markets.

The possibilities of **Cyprus** are sometimes overlooked. The crop is known to the peasants in the Colony and a small quantity of inferior flax is regularly produced. A difficulty is lack of water for retting; but the development of "natural" flax seems an obvious opportunity for the Cyprus industry, though with the existence of numerous small agricultural occupations, no one industry is likely to be developed without sustained Government effort and supervision. There is also a small flax industry in Egypt; the fibre is relatively poor, probably on account of incorrect retting; here again is an opening for official action.

The position and prospects of flax in Australia and New Zealand are doubtless well known to the Ministry of Supply.

Flax Supply Problems

FEVERISH EFFORTS TO INCREASE PRODUCTION

ACCORDING to the *Jute Review* of May the flax market has been quiet for some time. The supply question is most dominant and not much change is expected for the near future. There is little movement in dry spun flax and tow yarns as spinners are not in a position to accept orders ; the turn-over is very limited. Market conditions for wet spun yarns are unchanged, only small transactions are carried out, values being to a large extent nominal.

Reports from the main flax consuming countries show that feverish efforts are made to increase flax production.

Reports from the British Empire show that flax will be cultivated in several parts of the Empire which have not hitherto done so before. Spain and Italy are making great efforts to increase flax production. Germany is reported to be trying to obtain flax from Russia, so far without much success.

FLAX PRODUCTION IN INDIA

A NOTE SUGGESTING A PROCESSING SYSTEM

The following is the text of a note on Flax Production in India prepared by Mr. 'Max' Segalowitz of Messrs. M. Segalowitz Ltd., Fibre Merchants, 52/54, High Holborn, London, (received by the Imperial Council of Agricultural Research through the High Commissioner for India, London) :—

The straw from the large acreage of flax crop, which is cultivated in India, for linseed, has a very low fibre content and as this type of crop is not harvested until the seed has fully matured, therefore, the fibre is very coarse and brittle and would only be suitable for spinning very heavy yarns.

Different designs of machines have been used in India, Canada and America for processing this type of straw, but up to present no successful machine has been evolved as the fibre obtained at present is only suitable for upholstering purposes.

Fibre and seed flax crops have been produced in India during the past three years from *Liral Dominion* and *Liral Crown Pedigree Flax* Seed, and the fibre obtained from the water-retted flax straw was all that could be desired as the spinning qualities were very high.

We would, however, point out that the special warm-water retting tanks and heating installation which permits of controlled retting are most expensive to install and even with this special plant in order to obtain uniformly retted fibre the retting must be carried out under the control of a man who is experienced in work as the different qualities of straw require careful examination when the ret is nearing completion and only an experienced person can determine the stage at which the straw must be removed from the tanks.

As there are no proper facilities for water-retting flax straw in India we have, therefore, suggested that natural (unretted) flax fibre should be produced.

If this system of processing were adopted it would permit of rapid development of fibre flax cultivation in India as the crop after pulling and drying only requires to be stored for approximately 8 weeks until the seed matures and the stems become mellow, after this period the crop can be processed on a deseeding and decorticating plant.

The seed which is removed from the stems while they are being passed in a continuous curtain formation to the combined straw breaking and turbine decorticating unit can be used for re-sowing and has, therefore, a high commercial value.

Natural flax fibre produced from unretted flax straw after hackling on a standard 18 tool flax hackling machine can be used successfully for manufacturing high quality ducks, drills, canvases, threads, etc. and experts can fore-see the time when unretted (Natural) fibre will be used for all purposes in the Linen Industry where retted flax fibre is being used today.

Natural line fibre and tow is prepared in the usual manner on Line and Tow Machinery, and then gillspun and the yarn after reeling is boiled and treated in the same manner as retted flax yarns. If wet spun yarns are required the fibre is boiled in rove form and then spun on standard wet spinning frames.

The advantage of this process which is now being used to a very considerable extent in Belfast and Scotland for ducks, drills, canvases, threads, etc. is that it eliminates the guess work and costly retting process and substitutes in its place a boiling process which can be controlled.

When decorticating deseeded unretted flax of an average length and medium quality the production of natural fibre obtained per day of 9 working hours averages 1260 lbs. and is obtained from approx. 6300 lbs. of dried deseeded straw.

The number of workers required to operate a decorticating unit, is 8, composed of juveniles and 4 adults either male or female. The operations entailed are so simple and easily performed that workers can become skilled in a few days.

This system also permits of the deseeding and decorticating factories being worked 12 months per annum, which is a decided advantage as workers will become skilled in the handling and selecting of the various qualities of straw and grading of the natural fibre.

GROWING FLAX IN BENGAL AND BIHAR

GOVERNMENT OF INDIA'S DECISION

A scheme for growing flax in India estimated to cost Rs. 4,50,000 has been approved by the Government of India, reveals a Central Government Press Note, dated August 1. About 1,200 acres will be sown shortly in Bihar and Bengal, which have been selected for the experiment. The seed purchased in Holland has arrived in Calcutta and if germination tests are satisfactory, the necessary machinery will be ordered. The scheme includes guarantees to cultivators designed to discount the risks attendant on the growing of a new and unfamiliar crop.

The flax plant belongs to the same species as the linseed which is grown extensively in India. Some difficulty was experienced in obtaining seed for which there was a keen demand in the United Kingdom and Ulster ; it had eventually to be obtained from Holland.

The question of flax spinning is already under consideration by the Indian Central Jute Committee.

Seventy per cent. of the world's supply of flax comes from Russia. Small quantities are also produced in the United Kingdom and Ulster. Recently, however, the war demand for flax has increased enormously particularly for the Admiralty, Defence, A. R. P. and other services. If the experiment is a success, a new field of development will have been opened up in India to meet the Allied as well as her own requirements.

Experiments on the cultivation of flax in India have been in progress for some years in Bihar, Bengal and the Punjab. These experiments have already shown that there is immense scope for the cultivation of flax in this country. The Bengal Government has been making experiments with seed brought from Ireland and grown at the Government farms at Dacca, Rangpur, Dinajpur, and Berhampur. A new method of extraction of fibre was evolved and special appliances devised for the adoption of this type of work as an item of home industry. The Imperial Council of Agricultural Research granted a total sum of Rs. 5,000 to be distributed over five years for experiments in this connection.

The crop has also been tried out by private growers in different parts of the province. The Government of Bengal have recently sanctioned a sum of Rs. 30,000 to be distributed over three years for purposes of demonstration on a large scale.

FLAX IN AUSTRALIA

GOVT. PROPOSALS FOR INCREASE IN PRODUCTION

According to the *Fibres and Fabrics Monthly* details of the Commonwealth Government's proposals for securing a four-fold increase in production of flax in Australia during the current year were recently announced by Mr. Holt, the Asst. Minister for Supply and Development.

Mr. Holt explained that the largest area of flax hitherto planted in Australia was 2,000 acres, but it was considered possible to plant from 8,000 to 10,000 acres this year in the areas considered most suitable for production namely, Southern Victoria and Northern Tasmania. This should produce sufficient flax in a normal season to replace all previous imports, and to use all the spinning capacity now available. Should the first year's production plan succeed, the acreage under production would be increased in subsequent years.

Improved method for extracting flax

Patent No. 518,827 relates to an improved method and apparatus for obtaining fibres from stalks of flax and other bast plants. The stalk is lowered and raised between fixed members and a revolving scutching member. The apparatus can be used in connection with decorticating or hackling machines.

The method by which the Government proposed to increase present production is as follows:—Through the Department of Supply and Development, the Government would enter into contracts to purchase flax fibre of approved quality from any processors able to supply it, and would arrange for the sale of the fibre to spinners who would supply the Australian market for yarn.

For the current year the price paid to the farmer for his flax straw would be the same as was paid last year namely, £5 a ton for straw of standard quality, which from experience was a payable price. In fixing the price of straw at this level, when overseas quotations for fibre had mounted sensationally above those ruling before the outbreak of war, the Government had in view the desirability of avoiding price booms with the consequential danger of price slumps. It was intended to avoid unfair discrimination between farmers who would otherwise be able to reap a fortuitous war-time profit and those not so fortunately placed. Having set its face against profiteering in all forms, the Government saw no reason to allow a temporary exploitation of the flax market to take place to the detriment of the community and against the permanent interests of the industry.

SISAL AND WAR SITUATION

The over-running of Holland, Belgium and a considerable area in Northern France has introduced various new factors into the world fibre situation, comments the June issue of the *Industrial Fibres Review*. It has cut the financial and economic links between Holland and the important sisal, kapok and other fibre producing industries of the Netherlands East Indies and has thereby made necessary extensive readjustments. This is also true as regards Belgium and her African colony, although, as a fibre producer, the Belgian Congo is not in the front rank. The seizure or destruction of a number of fibre using factories has also to be reckoned with.

On the other hand as far as East African sisal is concerned there is reason to believe that British and French Government requirements will substantially exceed the earlier estimates and as the Mexican henequen industry's output seems to be definitely dwindling the United States may be expected to draw an increasing proportion of their sisal imports from other sources. For the time being, however, the outlook is certainly obscure and the less said about it the better one's prospects of not being reviled as a false prophet in the near future.

LINOLEUM FOR FURNITURE

ATTRACTS MORE ATTENTION

The use of linoleum for furniture is now attracting more attention owing to the possibility of saving timber in this way, reports the *Jute Review* of May. A few Italian furniture manufacturers are reported to be bringing out furniture with linoleum. It is claimed that linoleum covered furniture is cheaper, easy to clean, looks well and can easily be replaced. Besides, only a relatively small quantity of timber is necessary.

PAPER SHORTAGE

JUTE SACKS' OPPORTUNITY

The *Jute Review* of May states that the necessity to restrict the use of paper has brought some consumers back to jute. Cement bags have been in better demand reports Dundee, and some business is reported to have been booked in this line. It would seem as if jute sacks have found an opportunity of regaining a market which was already considered a complete loss.

"IXTLE" INDUSTRY IN MEXICO

Approximately one half of the total Mexican production of *ixtle de palma* is exported and the remainder is used locally in the manufacture of twine, rope, and bagging, reports the American Agricultural Attache at Mexico city. A number of mills in Mexico are said to spin and weave *ixtle de palma*. The machinery used is said to be similar to that used in jute manufacture. The fabric made from this fibre is rough, and bags made from it are hard to handle ; furthermore, the weight of the bag is much greater than that of similar jute bag. Although there is local market for bag material woven from *ixtle de palma*, there does not appear to be much prospect for the sale of such fabrics in competition with jute goods in foreign markets.

"PHORMIUM TENAX" IN THE ISLE OF MAN

EXPERIMENTS ON WASTE LAND SUGGEST THAT BETTER SOIL IS NECESSARY

A few years ago the Legislature of the Isle of Man decided on an experiment in the growing of *phormium tenax* with a view to the establishment in the course of time of a fibre industry in the island, writes a correspondent in the June number of the *Industrial Fibres Review*. The object was to test whether the plant would succeed on land unsuitable for other purposes, such as the large tract of waste land in the valley running from Crosby to St. John's in the centre of the island.

Plots of waste land to the extent of about 15 acres were used and experimental plantings were undertaken by the Isle of Man Board of Agriculture. The plant, used for ornamental purposes, grows to a great size in the municipally-owned park at Ramsey.

Seed was obtained from these plants at Ramsey and seedlings raised from it were planted. The land was not given any particular treatment beyond clearing the surface and cultivating roughly where the rows were to go.

For the first two or three years the plants made little progress, and it seemed as though the prospects of success were not good. The plantations were cleaned annually to give the plants a chance. Last year they began to make more definite growth and though the severe winter must have tested them severly they now look fairly promising, and may be expected to make further growth this season.

It cannot be said as yet whether the experiment has succeeded or failed, but it has, perhaps, indicated that to do well in the Manx climate *phormium tenax* requires better soil and conditions than those in which the experiment has been carried out. At first it was thought that a sufficient acreage might be grown to justify the establishment of a factory for dealing with the fibre, but that expectation is not now entertained. The Board of Agriculture does, however, hope to be able to dispose of some fibre this year, and obtain some return for the cost of the labour involved, which has so far amounted to about £1,000. Some time before the outbreak of war the U. S. S. R. Department of Horticulture at Moscow apparently having heard of the Manx experiment asked the park-keeper at Ramsey if he would send them some seed as they would like to test its suitability for growing in different parts of Russia. A packet of seed was sent but nothing further has been heard of the matter.

"PHORMIUM TENAX" IN NATAL

Some fifteen years ago an attempt was made to grow *phormium tenax* at Mattandu's Kraal in Natal; between 1926 and 1929, about 35 acres were planned but nothing has been heard of any progress since the last-mentioned year and it is believed that the area chosen was not suitable.

The South African Department of Agriculture and Forestry (through the Trade Commissioner for the Union in London) informs the *Industrial Fibres Review* that during the last few years an effort has been made to grow *phormium* on a commercial scale in Zululand with some measure of success. At Melmoth, where 75 acres were planted by one grower, it appears to be doing fairly well; the fibre is sold to a cordage and rope company at Durban. The Umhlatuzi Valley Co. has planted a considerable acreage near Richards Bay, and the growth of the plants is reported so far to be very promising. The possibility of establishing a successful *phormium* industry in certain parts of the Union of South Africa will shortly be discussed by the Agricultural and Industrial Commission, but at this stage the Department of Agriculture and Forestry is not in a position to express a definite opinion as to the prospects of success.

YARN STIFFNESS TEST

The amount of stiffness or flexibility in a yarn or twine usually accounts for much of its behaviour in fabrication and usage, stated Donald C. Scott, of Ludlow Manufacturing & Sales Co., Ludlow, Mass, in a speech delivered at the last convention of the American Society of Mechanical Engineers.

Mr. Scott said (according to a report in the *Daily News Record) :—*

"Numerous factors control the degree of stiffness. Probably the most obvious factor is the size or bulk of the yarn or thread, while others just as important are twist, moisture content, chemical applications such as starch, carbonizing, and tendering with high temperature drying.

"It naturally follows that a method for evaluating accurately the stiffness of yarns and twines would be of some use. For example: In making a study of various per cent. loadings of warp sizing material, if the relative stiffness of each sample was measured a much clearer picture would result, and the selection of the proper sample would be more accurately carried out.

"The rigidity of yarn and twines may be classified as flexural and torsonal. Or in other words the stiffness of a yarn or twine is shown by its resistance to bending and twisting. In most cases it is the stiffness of bending that is important.

"In strength of materials stiffness is measured as the ratio of the increment of unit stress to increment of unit

(Continued at the bottom of page 372)

New Patents

IMPROVEMENTS IN SLIVER PLATES FOR CONDUCTING SLIVERS OF FLAX

In preparing flax for varied purposes certain of the slivers are of a delicate nature and will not withstand the drag necessary for carrying them through the process which they have to withstand.

A new patented method of Fairbairn, Lawson, Combe, Barbour, Ltd., Leeds (Patent No. 519, 200) meets the requirements of these slivers.

In accordance with this invention the sliver plate is formed in the ordinary manner but the guiding surface for conducting the sliver is prepared by having suitable openings made in the sliver plate for guidance of the sliver so that there is not much distance between the point of contract of the guiding surface and the plate which conducts the sliver to the roller.

(*Continued from Page 371*)

deformation within the elastic limit. Essentially the same properties are measured for yarns and twines. The sample is distorted a measurable distance with a known force, and the ratio of the force to the elongation is the measure of stiffness.

"Numerous methods of deflecting yarn samples have been tried. For a yarn and twine stiffness test which may be easily and accurately carried out, the circular loop actually does seem to be the simplest to work with. The loop is made by carefully tying the sample piece around a tapered wooden tube at the required diamater. The ends are fastened with a square knot and clipped as short as possible.

The ring may then be slipped off the tapered tube and set in tester. The tester consists essentially of a deflection measuring device, a needle point balance, and a calibrated chain which may be unwound from a dial thereby loading the loop with small increment of weight".

Holes through the sliver plate are made so that the sliver comes over the top of the plate, is taken down through the plate, and then up through another central opening and forward to the edge of the plate where the roller is situated.

The openings through the plate are made in triangular shape so that the two edges are at an angle of 45° to the horizontal edge of the plate and keep the sliver in proper form. When the slivers descend they will take along a path and come to the centre opening with the width of the sliver slightly reduced to emerge in a desired shape.

The central opening is circular but does not allow the passage of the two central slivers from the rear of the machine through it, but these slivers are conducted direct to the funnel and are somewhat condensed on reaching the roller. The whole sliver being thus strengthened will proceed forward without malformation.

IMPROVED SPINDLES

A patent has been granted to York Street Spinning Co., Ltd., and H. G. Emans for an improved Spindle for flax, hemp, jute, ramie, etc. (Patent No. 518,049). The object of this invention is the construction of a spindle which while permitting the spinning of larger pins than is possible with spindles of the known construction, it is claimed that the invention will eliminate most of the injurious vibration of the spindle which will allow doffing without removal of the flyer and will ensure adequate lubrication of the spindle so preventing wear of the spindle, etc. The spindle is formed in two parts, a hollow outer spindle which carries the flyer and an inner spindle concentric with the outer spindle.

DRAWING TEXTILE SLIVERS

A new patent relates to mechanism comprising various pairs of rollers drawing textile slivers. The invention consists in arranging between two pairs of intermediate rolers

(Continued at the bottom of Page 376)

Export and Import Restrictions

JUTE AND SUBSTITUTES

THE following are extracts from the London *Board of Trade Journal* indicating the steps taken by several countries during May and June 1940, in the matter of restriction placed on export and import of jute and its substitutes :—

Australia :—Exports of jute and hessian goods from Australia have been prohibited except with the consent of the Minister for Trade and Customs.

Straits Settlements :—The *Restricted Exports Order*, 1940 published in the *Straits Settlements Government Gazette* of May 1, 1940 prohibits the exportation of jute piece-goods, jute carpets and rugs from the Straits Settlements except under permit.

New Zealand :—Imports of corn sacks, wool packs etc., jute and hessian piece-goods manufactured in India have been subjected to licences which will be granted to the extent of the country's requirements after consideration of each individual application.

Palestine :—Cordage, cable, rope, twines, flax, hemp, jute and linen threads are dutiable from May 1940, at 15 per cent. *ad valorem* instead of 12 per cent. as formerly.

Exports of sacks, sackings, ropes and cordage from Palestine have been prohibited, except under licence, since May 1940.

Fibre Production and Trade Items

Turkey's Fibre Exports

Exports of hemp and other vegetable fibres in the first two months of 1940 were valued at £T650,000 against £T140,000 in the corresponding period of 1939, an increase of £T510,000 or 364·3 per cent.

Italian Import Regulations

The temporary import of jute paper sacks, and jute sacks with paper lining for the export of lithopone will be allowed up to the end of 1940, and of Manila yarn for the manufacture of wire cables up to the end of February, 1941. All governmental and semi-governmental authorities in Italy may in future only import foreign goods if the licence of the General Commissariat for War Economy has been obtained. Exceptions are to be made in the case of *inter alia* cotton, jute and wool, for all of which the existing import regulations remain in force.

Yugoslavian Hemp Exports

Exports of hemp during the first two months of 1940 were valued at 73,500,000 dinars, against 40,000,000 dinars in the corresponding period of 1939. Exports to Germany increased from 10,600,000 dinars to 29,100,000 dinars, to France from 4,000,000 dinars to 12,100,000 dinars and to Great Britain from 14,200,000 dinars to 17,600,000 dinars. Strong protests have been made by hemp producers and exporters in Jugoslavia against the regulation issued in the middle of March that hemp exports may only be made against flax and jute.

Raw Material Credits in Yugoslavia

The administrative committee of the Yugoslavian National Bank has decided to issue special credits to Yugoslavian industrialists for the purchase of raw materials.

The credits will be made to the acceptance of an industrial undertaking, which must be provided with the endorsement of a bank. The credits may be given for the purchase of wool, cotton, jute and semi-manufactures of any of these, and various other products. The credits will be allowed for a maximum period of three months, which may, however, under special circumstances, be extended by a further three months.

The foregoing paragraphs have been taken from the "Industrial Fibres Review" of June.

(*Continued from Page 373*)

a roller which leads the sliver from one pair of rollers to the other and which is associated with one or more condensers reducing the width of the sliver.

SEPARATION OF FIBRES

The separation of long fibres such as flax, hemp or jute into "pieces" or bundles preparatory to their introduction into the hackling machine has hitherto been carried out by hand labour, and the object of the present invention is to provide apparatus which will separate the fibres into "pieces" of any required size or weight. The machine consists essentially of two parallel guides disposed one above the other at any desired distance apart between which the fibres are fed at right angles, and about equidistant from each end of the fibres a movable stopper lever at the delivery end of the guides which is controlled to hold or release the fibres as required. A dividing device behind the stopper lever penetrates into the fibres and separates the requisite amount to form a "piece".

The foregoing paragraphs on "New Patents" are reproduced from the May number of the "Jute Review".

Trade Notes

CUTTINGS FROM THE BRITISH PRESS DURING JUNE

Dundee Imports Maintained

Few ports have been harder hit than Dundee by the dislocation or cutting off of main sea communications, but the trade of the harbour has been surprisingly well maintained in the circumstances. Germany's more recent invasions have put a finish to the last remnants of Baltic, Scandinavian and near Continental traffic, while Mediterranean tension has resulted in jute carriers from India being dispatched by the more circuitous Cape route.

Despite a situation bristling with difficulties, the inward flow of raw jute—— the lifeblood of the City's staple industry ——is now back almost at full strength. Figures are not available, but it is giving away no secret to say that imports to date do not fall far short of the very satisfactory total which had been achieved at this time last year. There have certainly been fewer ships, but it was only to be expected that the part-cargo system which had been in operation since the 1914-1918 war would be modified in the interests of safety. Several cargoes have actually been unloaded at south or west coast ports and sent on to Dundee by coaster or rail. The chief snag in the situation is that the industry is again facing an uncertain future.

SANDBAG CONTRACTS

The substitution of brick for sand-bag protection on many public buildings and the termination of the Government bag contract has hit several firms, although the situation is not so serious that there is any immediate likelihood of widespread unemployment. The labour concerned, being mainly female, is affected only to a minor extent by the call for military service.—"Linen"

Growing use of Substitutes

The intrusion of substitutes into the markets hitherto exclusively served by jute manufacturers is the industry's most pressing and difficult problem. In the grain trade bulk elevators have long been reducing the demand for sacks and it seems probable that in big centres they will continue to do so. More recently, competition has been coming forward from cotton, sisal and paper interests, though the manufacture of paper bags has been largely curtailed as a result of the war. The extension of cotton substitutes has recently been noticed both in France and Italy and more persistently so in the Argentine.—"Economist"

Changes in the Jute Trade

After two and a half months of mostly dull and easier market conditions the price of jute has undergone a marked advance this week. The quotations in Calcutta are now almost twice as high as the pre-war figure and demand, if not particularly keen, is maintained at a satisfactory level. Since the big Government contracts for sandbags have been completed, jute mills have derived a large amount of employment from other buyers, some of whom had changed over to the use of paper bags but have now seen cause to revert to jute. From the beginning of the war up to the end of January shipments of Indian jute to the United Kingdom were three-quarters higger than in the corresponding period of the preceding year (chiefly owing to the continued large shipments of hessian gunny bags), but early this year it was decided to halve the monthly rate of deliveries of bags, since the more urgent requirements had been covered, in order to economise shipping space ; exports of jute from British India are, of course, subject to Government licence. As far as shipments of jute to other countries are concerned, the statistics up to January show a sharp fall in exports to the Continent of Europe, as sales to Germany and Czecho-Slovakia have been stopped complelely and smaller quantities were sent to Belgium and Italy. Shipments to the United States, Brazil and the Argentine, on the other hand, show a substantial expansion. No jute was sent to the Soviet Union during the first five months of the war, but France received somewhat larger tonnages, partly, perhaps, in replacement of material which used to reach that country through the British re-export trade ; this source of supply was of considerable importance to French buyers before the war.—"The Statist," May 18.

Sterling Dealings

Important steps, the Treasury announce, have been taken by the Government in continuation of the policy of basing foreign trade on the official rate of exchange and of limiting the volume of transactions in the free market for sterling.

For the time being no licences will be given for the sale in the United Kingdom of securities owned by persons resident outside the sterling and franc areas.

All exports from the United Kingdom to the United States and Switzerland will have to be paid for in sterling obtained from the Exchange Control at official rates or else in United States dollars or Swiss francs respectively. Exchange will normally be provided in their own currencies to residents in the United States and Switzerland in respect of commercial and current financial payments—including interest and dividends—due to them.

As regards transactions with other countries outside the sterling and Allied areas, broadly the same effect will be achieved by extending the system of payments agreements and special accounts which enables settlements to be effected in sterling through official channels at official rates.

The regulations requiring payment for exports of jute, rubber, tin, whisky, fur and diamonds to certain countries—including Belgium, the Belgian Congo, the Netherlands, and the Netherlands Empire, and countries of South and Central America—to be obtained in certain specified foreign currencies or in sterling obtained from the Exchange Control against those currencies—have now been revoked in the case of exports to countries other than the United States and Switzerland. Similar arrangements have been or will be made by other countries in the sterling area.

FULL VALUE FOR EXPORTS

The above measures will further reduce the volume of sterling that can be dealt in on foreign markets and will enable our foreign trade to be conducted on the basis of sterling at the official rate.

This will ensure the benefit of a stable rate both to ourselves and to the countries with whom we trade. It will, moreover, ensure that full value is received for our exports, either in the form of imports into this country or in the form of currencies which are urgently required for the payment for materials, foodstuffs, and munitions essential to the prosection of the war.

It should be added that the United Kingdom's trade with the steeling area—viz. the British Empire—excluding Canada, Newfoundland, and Hong Kong—plus Egypt, the Anglo-Egyptian Sudan, and Irak, is, of course, conducted in sterling and no question of exchange arises. With Canada, an agreement having the effect of a payments agreement is already in operation.—"Yorkshire Observer."

Monthly Notes on Progress of Schemes

THE following is a short review to indicate the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

A meeting of the Special Sub-Committee appointed to consider a tentative scheme for the stabilisation of jute market was held on the 26th July, 1940 when it considered the opinions received from the Chamber of Commerce, Trade Associations and individuals concerned on the proposed scheme. No definite decision was however reached in the matter.

Mr. P. M. Kharegat, C. I. E., I. C. S., visited Calcutta on the 26th July and again on return from Dacca on the 31st July. He was present at the meeting of the Special Sub-Committee.

The Secretary remained fully occupied with the writing of the "Review of the Working of the Indian Central Jute Committee for the last three years" and Annual Report for the year 1939-40 which will be presented to the Committee at its forthcoming meeting. The agenda for the meeting of the Main Committee is ready and the preparation of the notes for the meeting has now been taken in hand.

Marketing and Transport

During the month of July the work of this Section has been principally devoted to the proof checking of the First Report which is now being printed and the collection of material for the Second Marketing Report.

Dr. Hossain, Marketing Officer, has been occupied on work connected with the printing of the First Marketing

Report. Close supervision has had to be exercised to ensure the correct disposition and treatment of statistical references throughout the report.

Second Marketing Report:—The synopsis of this report has been re-cast for both the manufacturing and jute export sections.

Visits were paid to a number of mills in the Calcutta area and enquiries regarding the qualities of jute used in the production of standard fabrics were completed. The Senior Marketing Officer visited Chittagong and enquired into the conditions governing the export of jute from that port.

Considerable time has been given to the study of back numbers of trade publications, such as, 'Capital', 'Commerce', etc., and to the Department of Commercial Intelligence and Statistics annuals, 'Review of the Trade of India' for the purpose of extracting information suitable for inclusion in the Second Report. Enquiries were also conducted into the handloom industry and visits were made to two small workshops near Calcutta where handlooms for jute and cotton are manufactured.

The Assistant Marketing Officer carried out an investigation in Calcutta of the trade in used bags. This entailed enquiries at seven local markets and revealed that Calcutta is the principal collecting and distributing centre for second hand gunny bags in India, and that the trade is an extensive one. He also collected information about retail sales of new jute fabrics in Calcutta markets. Mr. Gupta, the A.M.O. made an interesting translation from German to English of sections of the book 'Die Jute' dealing with the introduction and early manufacture of jute in countries in Europe.

Agricultural Research

Protracted drought experienced throughout July has checked the growth of Jute. The widespread heavy attack of semiloopers and mites is due to the abnormal weather conditions.

Crop-observations at Dacca are progressing according to schedule. These include dates of flowering and fruiting, extent of branching, chlorosis, stem-rot and apion damage, and developmental studies.

Tannin content of some of the materials used in weighing down jute 'jaks' was estimated.

Black-Band disease was observed at Dacca and Rangpur Govt. farms. The climatic conditions were unfavourable for the spread of stem-rot disease.

For the control of mites lime-sulpher (both in equal proportions) dusting was found to be most effective.

GOVERNOR'S VISIT

His Excellency the Governor of Bengal and Mr. P.M. Kharegat, C.I.E., I.C.S., the President of the Jute Committee visited the laboratories on the 11th and 28th July, respectively.

Technological Research

The spins on the series of commercial qualities, top marks, collected by the Senior Marketing Officer from the 1939 crop have been completed. Arrangements are being made to obtain a more extensive range of commercial qualities from the 1940 crop.

Progress has been made with the method of assessing root quality by blending the cuttings with a standard long jute and determining the lowering of the quality of the yarn.

The spins on all the samples received from Orissa have been completed and the results will be reported shortly.

Further results have been obtained in the work of correlating fibre characters with spinning quality and the general relationships indicated by earlier results are borne out.

An apparatus has been constructed in the Laboratory workshops to compare the closeness of packing of different samples of fibre when compressed in a standard treatment. It is probable shat this character will be closely related to spinning quality, since it is known that fibre of high quality gives yarns with a higher " apparent density " than does fibre of low quality.

The regain results for a further five samples of fibre conditioned at a range of humidities will be available by mid-August.

A number of experiments have been made in which jute was wet out thoroughly and allowed to dry outdoors under various weather conditions in order to see how low a regain is readily obtainable during the rains.

The uronic anhydride yield and furfural yield of a number of samples of fibre of different spinning quality has been determined but no connection with spinning quality is apparent in the results so far obtained for these constituents.

ESTIMATING BARKY MATERIAL

Some preliminary small-scale trials have been made in order to test the possibility of the chemical retting of jute. Arising out of this a possible new method of estimating the amount of barky material in jute cuttings has come to light and there are indications of a method of improving the quality of cuttings. The treatment which has been most successful would probably be rather too expensive but now that the first steps have been made it may be possible to discover a cheaper treatment on similar lines.

A statistical examination of single thread breaking load tests on jute yarns shows that, as for cotton and flax, the distribution approaches very closely to normal. It has been found that the plotting of results on probability paper enables the mean and standard error to be found with fair accuracy by the method indicated by Spencer-Smith and Todd (J.T.I., 1937). This may have applications later.

The distribution curves for the weights of 2-inch lenghts show on the other hand a considerable amount of skewness. The reason appears to be that superimposed on variations due to general sliver irregularity and irregular drafting a number of heavy places occur owing to tangled tufts of fibre getting spun into the yarn producing slubs.

Improvemement of Jute Forecast

The field survey work in connection with the Sampling Census of jute in Bengal was completed in seven districts. It is expected that the survey of the remaining one district will be over by the end of the month.

The Jute Census Committee at its meeting held on the 25th July 1940, decided several important matters. It considered the Statistical Report on the crop cutting experiment on jute in 1939 and sanctioned a scheme for conducting crop-estimating survey on a small scale during the current season at an estimated cost of about Rs. 3,000/- with a view to determining the best size of the cut and to find out the time and cost factor for planning an all-Bengal Scheme for the future. The work will be undertaken in thirteen thanas in four districts (Dacca, Mymensingh, Tippera and Rangpur) and the staff selected for the work have proceeded to the respective thanas after receiving instructions and practical demonstration of the crop cutting work for five days.

Two other important decisions taken by the Commitee were (i) that the work of the collection of maps required for next year's Provincial Survey should be undertaken forthwith and (ii) that the Government of Bengal be requested to make provision of Rs. 75,000/- in their budget for next year as a contribution to the Indian Central Jute Committee for Jute Census Work.

Statistics & Information

Estimates of jute exports during the 1939-40 season have been worked out. According to the estimated figures the total export of raw jute during the 1939-40 season was reduced by nearly 25 per cent. as compared with the export of the previous season. The general level of export of raw jute for a major part of the season was much below that of the previous season. Some months recorded as much as 50 per cent. reduction in export. The fall in raw jute export was, however, more than made up by the rise in the export of jute goods, the estimated increase in the latter being about 23 per cent. The total export during the 1939-40 season is estimated to have exceeded the figure for the previous season by nearly 3 lacs of bales.

Materials are being collected for the estimation of World Consumption of Jute in the 1939-40 season. Arrangements have been made to obtain figures whose publication may be deferred for a few months. The analysis of the estimated export figures indicates a possible increase in consumption during the 1939-40 season.

The compilation of a card index of information and statistics is progressing. The preliminary work of classification of all information collected has been completed and cards are being prepared on the basis of this classification. Cards are being grouped according to subjects and there will be a set of cards giving cross-references to all information for each individual country.

The following reports were prepared during the period under consideration :—

1. Annual report of the work done under the scheme of Statistics and Information during 1939-40.

2. Report on the general jute position in 1939-40.

3. Progress report on the scheme of Statistics and Information from March to August, 1940.

4. Report on the steps taken regarding the recommendations of the Bengal Jute Fnquiry Committee.

5. Report on the position as regards the collection of stock figures and what further steps may be taken in the matter.

Publicity

There is nothing particular to report. The work in connection with the production of the *Bulletin* proceeded along the usual lines. It may be noted that the monthly report reviewing conditions affecting jute in the Argentine, which is a regular feature of the *Bulletin*, sent by Mr. W. J. Jackman was missing in the last issue, and so is the case in the present one, as none has been received yet. Attempt is being made to find out the reason.

PRICE DISSEMINATION SERVICE

The Assistant Publicity Officer paid surprise visits to some centres in the Dacca district towards the end of July and found that the Service was working satisfactorily in some and otherwise in a few centres, the latter due to lack of proper local handling and other unforeseen causes. Steps are being taken at the time of writing to remove the defects found.

The service in Bihar, which was so long held up due to unavailibility of quotations for Bihar jute, will have commenced, it is expected, by the time this is in print.

It is to be noted with regret that owing to the incompletion of the necessary arrangements in Assam, the Service could not yet be started in that province, as anticipated.

Corrigendum

Bulletin Vol. III, No. 4, p. 308, For *Daisee* read *District.*

INDIAN CENTRAL JUTE COMMITTEE

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CONTENTS

* * *

PAGE

Indian Prices During August 388
Barter System in Jute Transactions 389
Index Number of Prices 391
Final Jute Forecast 392
Monthly Variation of Exports 393
Production and Consumption of Jute 394
World Consumption of Jute in 1939-40 395
Assam Jute—A Detailed Survey 397
Indian Central Jute Committee—Eighth Meeting ... 402
Jute Regulation in Bengal 409
Constitution of Advisory Board 411
Prices of Raw Jute—I.J.M.A's Effort to check Decline ... 412
Large Order for Sandbags 412
3-Week Plan of Work in Jute Mills 414
Orders for Camouflage Hessian and Grainsacks ... 415
Larger Imports into Empire from India 416
Restriction of Crops by Central Government ... 418
War Risk Insurance on Goods 418
Co-ordinating Agricultural Research and Practical Needs 419
Marketing of Jute 421
Cordage Fibre Markets 423
Conditions in Argentine 427
U. S. A. 429
This Year's Record Jute Crop—How the British Trade takes it 433
Dundee Prices 435
Dundee Jute Arrivals 435
Egypt 436
China 437
Jute Carpets for Switzerland 437
Fibre Industries in Sweden 438

PAGE.
Fibre Cultivation—British Uganda 438
Manila Hemp Balings and Exports 439
Italian Hemp Production 439
A New Substitute for Jute 440
Fibre Pad 440
New Fibre for Canvas 440
A New Patent 441
Meeting the Paper Shortage 441
Trade Notes 442
Monthly Notes on Progress of Schemes 445
Conversion Table ... ... *Inside back cover*

Bulletin No. 6, Vol. III.

Imperial Agricultural Res...
New Delhi

Indian Prices during August

AN ANOMALOUS POSITION

LOOSE JUTE

THE position of the loose jute market in Calcutta is, to put it mildly, anomalous—mills in observance of their informal agreement with the Government of Bengal are nominally buyers at the agreed minimum prices *i.e.*, on the basis of Indian 'Jat' Top 9/8/-, Middle 8/8/- and Bottom 7/8/-. In actual practice they are buying negligible lots only of picked marks at these rates and are not in the market for the ordinary class of fibre which is now coming forward in quantity. Loose jute dealers are anxious to sell at considerably below the minimum rates but in view of the agreement mills cannot buy. Export balers who are not bound by any agreement can buy locally at rates much lower than those quoted above but the difficulty in obtaining licenses to ship coupled with practically no demand from overseas permits them to operate on a very small scale only.

Early in the month mills bought District 'Tossa', Middle and Bottom marks at Rs. 8/- and 7/- respectively. Picked Indian 'Jat' Tops and Middles were sold at Rs. 9/8/- and 8/8/- on 15th August and a day or two later Indian 'Jat' changed hands at Rs. 8/8/- and 7/8/- on the assortment 50% Middles and 50% Bottom. On 27th August a new feature in jute and gunny trading was introduced. Large firms of merchants having both loose jute and gunny interests purchased quantities of hessian and heavy goods from certain mill groups and sold them the corresponding tonnage in jute at the respective prescribed minimum rates.

The market closed with sellers pressing for business but attracting little buying interest. Rates are nominal as follows :—

Indian	*Top*	*Middle*	*Bottom*
'Jat' ...	9/8/-	8/8/	7/8/-
'District' ...	9/-	8/-	7/-

PUCCA BALES

This market has been dull and inactive with little business reported. Early in the month mills bought small lots of Firsts 2-3 at Rs. 46/- per bale, September delivery and old crop Lightnings 2-3 at Rs. 34/8/-. Business was negligible during the next two or three weeks, only very small parcels for mills and overseas being reported, but on 29th August balers sold a moderate quantity for exports :—Firsts 2-3 at Rs. 32/4/- per bale September and Rs. 31/- October delivery.

Indian Mixing Cuttings were reported at Rs. 13/8/- per bale near shipment.

The market closed quiet with negligible local or overseas enquiry.

HESSIAN

There was some activity in the hessian market during the month now under report and prices fluctuated over a fairly wide margin. Business was confined to inter-bazar and bazar-shipper trading as prices at no period reached the minimum under which mills had agreed not to sell.

Barter System

Jute transactions in Calcutta

It has, perhaps, not yet been noticed by many people that a sort of barter system in jute transactions has of late begun to be adopted by some in Calcutta. A few double transactions are reported in which bazar operators and speculators, who are also balers of kutcha bales, bought heavy goods and hessians from mills and sold to the mills corresponding weight of raw jute, the prices in each case being the minima laid down by the agreement.

The market opened on a steady note with 9 and 11 porters quoted as follows :—

	Ready	*August*	*September*	*Oct.-Dec.*
8 oz 40″	10/10	10/11	10/11	10/8
$10\frac{1}{2}$ oz 40″	14/12	14/9/	14/5	14/-

Reports that the Indian Jute Mills Association was contemplating action to relieve the bazar of some of the heavy hessian stocks held by operators had a steadying effect for a few days but in the absence of any declaration by the Association, the tone of the market became easier and dealers losing confidence, pressed for sales at rates which declined rapidly. On 9th August 9 and 11 porters were quoted at

Ready/August	*September*	*Oct./Dec.*
9/13	9/14	9/12
13/9	13/3	13/-and

some shipment and inter-bazar business was reported. Interest revived again with further reports of possible action by the Association and sellers regaining some measure of confidence became reserved. Some overseas enquiry also assisted to steady the market and prices appreciated by over one rupee for all positions. Demand was easily met however and by 16th August rates began to decline. Absence of support from overseas and pressure to sell by local operators weakened the tone of the market and prices slumped by 28th August to Rs. 8/13/- for ready 8 oz. 40". Reports that mills had decided to restrict production by closing down for one week each month had the effect of steadying rates once more and at the end of the month, though little business was passing, the market was firm with prices quoted as follows:—

	Ready	*September*	*Oct-Dec.*
9 porters	9/7	9/7	9/6
11 porters	13/8	13/7	13/6

HEAVY GOODS

The principal feature in this section was business done in cornsacks, principally between second hand sellers and shippers for August and September deliveries, otherwise trading was on a moderate scale.

This market moved in sympathy with hessian as will be seen in the record of prices quoted below for B. Twills, Liverpools and Cornsacks, August/Sept. delivery.

	1st. Aug.	*9th Aug.*	*28th Aug.*	*30th Aug.*
B. Twills	29/10	28/6	25/8	27/4
Liverpools	34/10	34/8	29/-	31/-
Cornsacks	32/-	31/-	27/8	29/12

Index Number of Prices

CALCUTTA JUTE

(Base : July, 1914=100)

Year		Raw Jute (1)	Manufactured Jute (2)	Ratio % of (2) to (1) (3)
Average of 1914-18	...	77	140	182
„ „ 1919-23	...	100	142	142
„ „ 1924-28	...	114	156	137
„ „ 1929-33	...	59	88	149
„ „ 1934-38	...	49	69	141
„ „ 1939	...	80	102	128
Av. of Jan-Aug., 1939	...	70	80	114
September, „	...	77	117	152
October, „	...	76	126	166
November, „	...	119	175	147
December, „	...	130	172	132
January, 1940	...	124	146	118
February, „	...	130	130	100
March, „	...	100	114	114
April, „	...	99	111	112
May, „	...	85	97	114
June, „	...	80	94	118
July, „	...	63	95	151

Prices of raw jute slumped heavily in July while jute manufactures were steady and recorded a small rise. The wide disparity in the prices of raw and manufactured jute in a period of a declining trend of the general price level is an indication of a crisis in jute in the near future. Indeed, the downward cycle of raw jute started in March and the fall in prices was so far more or less along a steep straight line. Prices of jute manufactures also had been falling since December along a parallel gradient, but since April the rate of decline had been considerably reduced. In other words, at a time when manufactured jute prices were offering some effective resistance against a serious decline, raw jute prices were falling at a rapid rate.

Final Jute Forecast 1940

THE following table has been compiled from the reports of the final forecast of jute crop published by the Director of Agriculture, Bengal, on the 17th, 18th, 19th, 20th, and 21st September :—

District	Estimated total area under jute in acres		Estimated total yield in bales of 400 lbs.		% Increase	
	Last year	This year	Last year	This year	In area	In yield
24-Parganas	30,000	45,000	70.000	1,21,500	50·0	73·6
Nadia	57,800	90,000*	1,58 800	2,70,600	55·7	70·0
Murshidabad	45,600	60,000*	1,04,200	1,14,000	31·6	9·4
Jessore	77,500	1,08,900	1,86.000	2,61,400	40·5	40·5
Khulna	27,400	50,000*	84,700	1,35,000	82·5	59·4
Burdwan	1.400	9,000*	3,000	24,300	542·9	710·0
Midnapore	3,400	10,900*	8,000	31,400	220·6	292·5
Hooghly	16,200	35,000*	48,000	1,12,000	116·1	133·3
Howrah	3,200	10.000*	7,200	26,200	212·5	263·9
Rajshahi	75,900	1,27,400	2,20.900	3,12.100	67·9	41·3
Dinajpur	71,000	1,49,700	2,30,750	4,09,200	110·9	77·3
Jalpaiguri	25,300	74,700	46,900	2,35,300	195·3	401·7
Darjeeling	800	1,600*	2,400	4,950	100·0	106·3
Rangpur	3,10,000	3,68,000	9,30,000	12,88,000	18·7	38·5
Bogra	95,000	1,58,700*	3,05,900	3,96,900	67·1	29·8
Pabna	80,800	1,80,000*	2,42,400	5,43,600	122·8	124·3
Malda	27,100	65,000*	85,100	1,52.100	139·9	78·7
Dacca	3,19,000	3,93 700	11,67,600	12,36.200	23·4	5·9
Mymensingh	6,90,600	8,19.000*	24,17,100	25.88,900	18·6	7·1
Faridpur	2,05,000	3,39,000*	6,61,600	9,50,000	65·4	43·6
Bakarganj	49,000	78,000	1,47,500	1,95,000	59·2	32·2
Chittagong	200	250	600	700	25·0	16·7
Tippera	2,40,000	3,42,500	9,12,000	11,25,200	42·7	23·4
Noakhali	51,600	90,700	1,90,900	2,72,100	75·8	42·5
TOTAL FOR BENGAL ...	25,03,800	36,07,050	82,31,550	108,06,050	44·1	31·3
Cooch Behar	32,800	45,600	60,950	1,27,200	39·0	108·7
Tripura State ...	13,000	18,000	28.700	42,500	38·5	48·1
TOTAL INCLUDING COOCH BEHAR AND TRIPURA STATE ...	25,49,600	36,70,650	83,21,200	109,75,750	44·0	31·9
Bihar	2,65,500	2,82,200	7,20,500	5,82,600	6·3	−19·1†
Orissa	22,500	28.400	47,300	62,100	26·2	31·3
Assam	3,23,300	3,62,700*	6,60,700*	9,42.000	12·2	42·6
GRAND TOTAL ...	31.60,900	43,43,950	97,49,700	125,62,450	37·4	28·8

* Revised † Decrease

Monthly Variation of Exports

JUTE FROM INDIA

(Figures are in 1,000 tons)

MONTHS	1939-40	1938-39	1937-38
RAW JUTE			
April	38·7	53·4	47·2
July-Aug.	58·2	83·9	75·3
Sept.-Apr.	422·2	531·7	509·0
July-Apr.	480·4	615·6	584·3
JUTE MANUFACTURES			
April	97·6	71·8	74·5
July-Aug.	180·7	171·2	182·4
Sept.-Apr.	789·3	627·5	663·7
July-Apr.	970·0	798·7	846·1
RAW JUTE AND JUTE MANUFACTURES			
April	136·3	125·2	121·7
July-Aug.	238·9	255·1	257·7
Sept.-Apr.	1,211·5	1,159·2	1,172·7
July-Apr.	1,450·4	1,414·3	1,430·4

Export of raw jute in April was about 22% below that of the previous month and was a little more than the export in the corresponding month of 1932-33. It is apparent that raw jute is entering a period of slump. The fall in the export of jute manufactures on the other hand, was checked in April and a substantial increase was recorded over the two previous month. In fact, the April tonnage was far in excess of the figures for the corresponding month of many years past. This helped to maintain the high level of the total export of jute and jute goods.

PRODUCTION AND CONSUMPTION OF JUTE

RAW PRODUCE

ACCORDING to the *Indian Trade Jurnal* jute arrivals into Calcutta and mills outside the Calcutta trade block (excluding road arrivals and arrivals into mills by boats) were as follows :—

From July 1, to September 7, 1940	11,07,000* bales
From July 1, to September 7, 1939	15,51,000 bales

Exports of raw jute from Calcutta and Chittagong from 1st July to 10th August, 1940 and during the corresponding period a year ago were 1,23,000 bales and 2,14,000 bales respectively.

MANUFACTURED GOODS

Manufacture of jute goods during August, 1940 by the mills reporting to the Indian Jute Mills Association are given below :—

Sacking Bags	(in 1,000s)	46,387	or	47,012 tons
Hessian Bags	(„)	23,605	„	4,539 „
Sacking Cloth	(in 1,000 yds.)	8,737	„	3,662 „
Hessian Cloth	(„)	1,46,572	„	38,935 „
Others				3,942 „
Total				98,090 „
Total during July, 1940				1,05,984 „

The *Indian Trade Journal* reports the following exports of manufactured goods from Calcutta during the period from 1st January to 10th August :—

		1940	1939
Sacking Bags (in 1,000s)	...	265,098	251,533
Hessian Bags („)	...	637,058	252,404
Sacking Cloth (in 1,000 yds.)	...	46,836	21,423
Hessian Cloth („)	...	1,023,562	725,243

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* Incomplete.

(*Continued at bottom of page 396*)

World Consumption of Jute in 1939-40

The estimate of world consumption of jute in 1939-40 has been calculated by the Statistics and Information Section of the Indian Central Jute Committee in two ways and the estimated figures for the last five seasons are given in the following table :—

WORLD CONSUMPTION OF JUTE

(in lacs of bales of 400 lbs.)

Year (July-June)	Estimate I	Estimate II
1935-36	101.1	103.5
1936-37	124.5	123.0
1937-38	108.5	109.1
1838-39	107.8	107.3
1939-40	109.6*	109.8*

*Provisional. Detailed figures for 1939-40 cannot be given until they are published by the Government of India.

The consumption of jute during the 1939-40 season was very much influenced by factors which are peculiar to war. While the exigencies of war put serious restrictions on normal trade and thereby reduced the ordinary commercial demand for jute, it created at the same time fresh demand for jute along new lines for war purposes. Besides this dual and apparently contradictory influence of the war on the consumption of jute, there was the general tendency of the world jute consumption to decline which has been manifesting itself since 1937-38. The resultant of all these factors was expected to keep the consumption in 1939-40 more or less on the level of the consumption of the previous season. In fact, in the report on World Consumption of Jute in 1938-39 the following remarks were made :—

"The total world consumption of jute in 1939-40 is likely to be in the neighbourhood of the consumption in 1938-39 and may even be lower than the latter if the war fails to give a fresh stimulus to jute demand."

It will be noticed that on the basis of the average of the two estimates, consumption in 1939-40 shows an increase of a little over 2 lacs of bales, which means that it did not rise substantially above the level of consumption of the previous season.

Although it is not possible to make an estimate of the consumption of jute which was solely due to the war, a lower limit of this consumption can however be estimated. The sand bag orders executed by the Indian Jute mills Association for the period from July 1939 to June 1940 consumed some 8 lacs of bales of raw jute. The normal commercial demand for jute in 1939-40 was therefore certainly less than 102 lacs of bales, and if the war demands of other countries are taken into consideration this figure can further be reduced to 100 lacs of bales. Thus it would appear that the consumption of jute in 1939-40 would have materially gone down, had it not been for the extra demand for jute created by the war.

(Continued from Page 392)

The following are the stocks of manufactured goods (cloth and bags) as reported to the Indian Jute Mills Association by its members :—

	End of August		*End of July*	
	1940	1939	1940	1939
Sackings (lacs of yds.)	2,404	1,830	2,554	1,962
(tons)	99,879	76,806	1,07,475	12,016
Hessians (lacs of yds)	3,019*	3,663	2,863	4,134
(tons)	72,698	86,645	69,743	101,004

*Out of the total August hessian stock 213 lacs of yds. represent sandbags and 842 lacs of yds. of 8 oz. cloth weighing 19,437 tons. The corresponding figures (sandbags) for July were 238 lacs of yds. and 936 lacs of yds. hessian cloth (8 oz) weighing 20,043 tons

Assam Jute

A DETAILED SURVEY

IT may be recalled that at its Fith Meeting held in February, 1939, the Indian Central Jute Committee approved a Scheme to carry out an enumeration of the quantities of jute carried by country boats from the areas of the Assam Valley to baling stations in East Bengal. A checking station was accordingly established at Jatrapur Reach, Rangpur district, from 23rd. May, 1939, to 31st. January, 1940, and a staff of seven enumerators maintained continuous watch.

A preliminary report on this Scheme was submitted to the Committee at its meeting held in March, 1940, and it was stated that the report covered only country boat shipments and a detailed report covering all methods by which Assam jute was sent to East Bengal would be submitted later. The text of the latter report prepared by the Senior Marketing Officer of the Committee embodying all the information collected is now given below :—

Country Boat Shipments

The Committee's staff during the period 21st. September, 1939 to 31st. January, 1940 were occupied in checking the quantities of jute carried by country boats from points in the Lower Assam Valley to East Bengal baling stations. Without doubt this fibre was to be mixed with that of the fine class Bengal areas and despatched to Calcutta as 'Jat' or good class 'District' fibre.

The quantity checked during the above period was 2,00,351 maunds. Actual country boat shipment figures for the remainder of the season are not available, however, the reliable trade sources estimate roughly the quantities so carried as follows :—

July/August, 1939	...	900 maunds
February/June, 1940	...	46,750 „
		47,650 maunds.

It would appear therefore that approximately 2,48,000 maunds of jute in loose condition were shipped into Bengal baling stations from Assam during last season.

Rail Despatches

Statistics obtained from railway stations in the Assam Valley district revealed that 2,90,000 mds. in loose and katcha baled condition were sent by rail from Nowgong to Narayanganj, Ashuganj, Chandpur, Mymensingh, Chaumohani, Akhaura and Narsingdi during the period July, 1939 to April, 1940.

Steamer Shipments

It has been a regular practice for some years to ship by steamer services bales marked with the names of Bengal 'Jat' centres, from baling stations in Assam to the steamer station nearest to the centre marked on the bales. The consignment is then re-booked to Calcutta as Bengal Jute. Actual figures are not available of the quantities thus shipped, but in 1937 they were assessed at approximately 66 % of the total steamer shipments. It was reported that in 1939 the quantities so despatched were smaller than in previous years. Taking them at 40% of the total 1939 steamer despatches which were 11,87,000 mds., they would amount to 4,74,800.

By the three methods noted above the total quantity of Assam jute sent to Calcutta as the product of Bengal in 1939 was as under :—

1.	Country boats	app.	2,48,000
2.	Rail	.,	2,90,000
3.	Steamer	,,	4,75,000
			10,13,000

Prices

A comparison of prices ruling in areas in the Lower Assam Valley from which the supplies for Bengal station are drawn, and prices ruling in two Bengal centres where Assam jute is sold, clearly shows the reason for this class of business.

Hat and Baling Centre Prices during weeks noted.

Assam (Barpeta, District.Goalpara)

Week-ending	14-10-39	4-11-39	18-11-39	9-12-39	23-12-39	6-1-40	27-1-40	10-2-40
Hat	6/12/-	7/8/-	11/-	14/8/-	11/8/-	13/8/-	10/8/-	10/-
Baling Centre	7/-/-	8/-/-	11/8/-	16/-	13/-	14/-	11/-	10/8/-
Dhubri—Goalpara District								
Hat	6/13/-	8/4/-	11/3/-	15/4/-	13/9/-	14/7/-	...	...
Baling Centre	6/14/-	8/10/-	11/3/-	15/2/-	13/7/-	14/10/-	...	...
Bengal (Mymensingh—District Mymensingh)								
Hat	8/13/-	9/3/-	12/-/-	15/13/-	15/11/-			
Baling Centre	9/12/-	9/12/-	12/11/-	15/12/-	16/6/-			
Narsingdi—Dacca District								
Hat	9/1/-	9/11/-	13/1-	17/12/-	16/7/-	17/11/-	14/10/-	13/8/-
Baling Centre	9/7/-	10/2/-	14/6/-	17/9/-	17/2/-	17/2/-	15/12/-	13/15/-

The above rates were supplied by the Committee's D.A. staff.

It will be seen that Assam prices fall below those of Bengal by a considerable margin at all times.

Taking into consideration the extra carriage and handling charges incurred, probable price difference on account of quality and any other feature that could legitimately be responsible for selling Assam jute at a lower price, a reasonable estimate of the profit made by middlemen and balers at the expense of Assam growers is about Re. 1/- per md. On ten lakhs of maunds therefore the growers of the province lost not less than ten lakhs of rupees.

Mills and balers were also defrauded as they paid full 'Jat' or 'Good District' prices for this fibre.

It is therefore suggested that the Committee after considering this matter may recommend a suitable line of action to be followed by the Government of Assam to stop this practice.

Sylhet Jute

It was estimated by balers in Akhaura, Ashuganj and Bhairab Bazar that approximately one lakh of maunds was brought in by country boat from Lower Sylhet. They stated that the bulk of this fibre was up to 'Jat' standard. Imports by country boat into Habiganj (Sylhet) is estimated at one and a half lakh maunds. This fibre is despatched in drums and half bales to Akhaura, Ashuganj and other important stations on the A. B. Ry. It was not considered necessary to institute detailed enquiries in this district as the quality being high prices are on a level with those of the East Bengal 'Jat' areas.

The principal Jute growing districts of Assam are those located on the Bramhaputra River *i. e.*, Goalpara, Nowgong Kamrup and Darrang. In the south-east of this province, Sylhet which is intersected by the Surma and Kasiayara Rivers, is an important district in which the quality produced in the lower reaches approximates that of Bengal's 'Jat' fibre.

The Eastern Bengal Railway passes through Goalpara and Darrang on the north bank of the Bramhaputra and has an important jute transhipment station at Amingaon. On the south bank the Assam Bengal Railway operates, serving Nowgong and Kamrup with Pandu Ghat as the principal transhipment point. This concern also runs through Sylhet and the districts of Tipperah and Chittagong in Bengal having important termini at Chandpur and the Port of Chittagong.

Jute is carried by the following transport methods:—

(a) In loose condition by rail and country boat;

(b) In katcha bales by rail, steamer services and country boat, and

(c) In pucca bales by rail for export abroad from the Port of Chittagong.

The enumeration of jute despatched from Assam entailed enquiries at many points.

Jute shipment figures for the period 1st. July, 1939 to 30th. June, 1940 are available, as follows :—

(a) Shipment by the Joint Steamer Companies over the Bramhaputra and Surma Valley routes.

(b) Shipment by the Bengal Rivers Service over the Bramhaputra and Surma Valley.

(c) Despatches by rail from all stations in Assam and Surma Valley.

A special investigation was carried out by the Committee's staff from 21st. September, 1939 to 31st. January, 1940 to enumerate the quality of jute passing over the Bramhaputra in loose form from Assam centres *en route* to East Bengal Baling Stations.

Despatches from the Lower Assam Valley areas by all methods were 31,56,851 maunds and from the Surma Valley section 5,73,516 maunds making a total of 37,30,367 maunds of jute exported from Assam in 1939-40. This figures may prove to be of interest to the trade. It may also be considered to be of some value in estimating the acreage under jute in this province. According to the Marketing Section's recent enquiry the yield per acre was calculated at 13·40 maunds. On this basis the area under jute in 1939 was 2,78,386 acres. The Department of Agriculture's preliminary and final forecasts were 2,57,100 and 3,23,300 maunds respectively.

Indian Central Jute Committee

SUMMARY OF PROCEEDINGS OF EIGHTH MEETING

THE Eighth Meeting of the Indian Central Jute Committee was held at its office, at 4, Hastings Street, Calcutta, on September 4th and 6th, 1940, with Mr. P. M. Kharegat, C. I. E., I. C. S., in the chair. Members representing the trade, growers and Governments of almost all the Jute growing provinces, and the Central Government attended, and decisions of far-reaching importance were taken.

Opening the meeting on the first day the president said that this time he proposed to depart from the usual practice of making a speech and thereby saving a lot of valuable time.

The proceedings commenced with the confirmation of the minutes of the Seventh Meeting of the Committee, after which Khan Sahib Nurul Amin was re-elected as a member of the Committee, the Government of Bengal having re-nominated him, and Mr. H. S. E. Stevens, C. I. E., I. C. S., Special Officer (Jute), Government of Bengal, was appointed a member of the Jute Census Committee, in place of the Secretary to the Government of Bengal, Agriculture and Industries Department.

After disposing of various items on the agenda relating to more or less routine matters connected with the internal administration of the Committee and other minor subjects the Committee approved of the draft review of the Indian Central Jute Committee for the year 1937-38 to 1939-40, which was decided to be issued early as a priced publication; it was also agreed to issue an abstract of it in Bengali.

Collaboration with Universities

Realising the importance of carrying out research on Jute in the closest touch with other branches of scientific research, the Committee decided on the policy of collaboration with the Universities of Calcutta and Dacca and to co-opt some Professors of these Universities on its Technical Sub-Committees.

The immediate objects of collaboration are primarily two-fold :—(i) First, the committee thought that the University scientists, many of whom were perhaps working on similar lines, might offer valuable advice on the work that was being done in the Committee's Research Sections. Even if their immediate work might be different from the investigations that were being undertaken by the different technical sections of the Committee they felt that their familiarity with the basic scientific methods and processes might be of considerable help and value to the Committee's research workers ; (ii) secondly, the Committee were inclined to think that the Universities, on their part, could also further their aims and objects by undertaking fundamental research on a number of subjects for which there was not, and indeed could not be, any room in the programmes of work laid down for the different Sections of the Committee ; such fundamental investigations might lead to results of far-reaching consequence which might be of abiding benefit to the Jute industry of this country.

This policy will not involve the Committee to any financial commitments in advance. It will be open to the Committee to subsidise research at the Universities, but only if, and to the extent, that its funds permit.

The President explained that there were two aspects to this proposal. The first was that the Committee wanted the Universities to carry out certain researches on their behalf, as far as they could conveniently undertake them. The other was that on the technical Sub-Committees constituted as at present, particularly on the Technological and Agricultural Research Sub-Committees there was very little outside scientific advice and if they could have a few eminent scientists on each of these Sub-Committees that would be very helpful. As regards the individuals to be appointed on the Sub-Committees the matter might be left to himself and the Vice-President.

The President pointed out that if they wanted certain fundamental researches to be carried out at the Universities, the latter might require some financial assistance. But each proposal involving expenditure would be placed before the Committee for sanction in due course.

The Committee, as mentioned above, unanimously agree to the general policy regarding collaboration with the Universities. As regards co-option of scientists to the Technological and Agricultural Research Sub-Committees, the matter was left to the President and the Vice-President as suggested in the Secretary's note.

PURCHASE OF RAW JUTE BY GOVERNMENT

CENTRAL COMMITTEE'S RECOMMENDATION

That the Central Government should come to the rescue of the jute-growers as the latter are faced with an impending crisis owing to the low prices of jute in the mofussil, was the opinion expressed at the resumed sitting of the Indian Central Committee on September 6, Mr. P. M. Kharegat, C.I.E., I.C.S., presiding.

The Committee found that notwithstanding the recent agreement between the Government of Bengal and the Indian Jute Mills Association as regards the maintenance of a certain level of prices in Calcutta, the jute-growers were, in fact, receiving a very low price for their crop—considerably lower than the parity of the agreed Calcutta prices, which in themselves, were now little better than nominal quotations. In the opinion of the Committee, the most important factors which had contributed to this result were the loss of extensive markets on the Continent and the absence of adequate shipping facilities to the markets still open to the exports of raw jute and jute goods from this country. In their view, these two circumstances, more than anything else, had reduced the demand for jute and jute goods to such an extent that, not only had the price of jute fallen very low, but a record surplus of the crop was likely to be left behind at the end of the current season. The Committee thought that this situation was the direct consequence of the conditions created by the war, and accordingly recommended that the Government of India should enter the market and purchase a portion of this season's crop, so that the price of jute might be maintained at a reasonable level, and the surplus stocks might be carried forward without any difficulty. In the course of the debate on this Resolution, it was pointed out by several speakers that this step would not involve the Government of India in any large-scale financial hazards provided they were assured by the Povincial Governments concerned that they would restrict the crop for the next year to an extent commensurate with the shrinkage in the demand for the fibre.

In view of the issues involved, the Committee further suggested that the Government of India should invoke the assistance of His Majesty's Government in the United Kingdom in regard to the provision of financial facilities if they considered that such aid was necessary in order to give effect to the recommendation of the Committee.

The official resolution on the subject, moved by Sir A. H. Ghuznavi and carried unanimously, reads :—

> "The Government of India be moved to arrange to purchase jute at a price corresponding to the price agreed to between the Indian Jute Mills Association and the Government of Bengal or at some other suitable lower price, on the understanding that the Provincial Governments of Bengal, Bihar, Assam and Orissa will supplement this by restricting the production next year, so that the surplus which will be available this year may be absorbed in course of the next year or two."

Price Stabilisation

A new Sub-Committee, consisting of the following members, was also appointed to suggest ways and means for the stablisation of jute prices when normal conditions return :—

(1) Sir A. H. Ghuznavi,
(2) Khan Sahib Nurul Amin,
(3) Khan Bahadur Aulad Hossain,
(4) Mr. Saiyid Abdur Rouf,

(5) Mr. M. A. Ispahani,
(6) Khan Bahadur Arshad Ali, and
(7) Mr. P. N. Sen.

Sir A. H. Ghuznavi was elected Chairman of the Sub-Committee.

Agricultural Sub-Stations

As the Government of Bengal were prepared to contribute 50 per cent of the cost and provide the necessary land, the Committee accepted the propsal for opening a sub-station for agricultural research on jute at Kishoregunge. The original proposal was to open three such stations, but since the question as to who would arrange for the land for the remaining two had not yet been settled, no decision was taken with regard to the latter. The Committee also provided for a similar station in Assam on the basis of the contribution of 50 per cent of the recurring cost by it.

Embargo on Jute Seed

After some discussion it was decided to inform the Government of India that the Committee favoured an embargo on the export of jute seed.

Provincial Survey of Jute Acreage

The proposal to carry out a full scale Provincial Survey of the jute districts in Bengal in 1941 by the random Sampling method which has been under investigation for the last three years was approved. The actual field survey is likely to commence from March, 1941.

Expansion of Technological Activities

On the question of the expansion of the Technological Research Laboratories, The Committee were strongly of opinion that more money should be asked for from the Government of India for carrying out experiments on new uses of jute. The importance of this research from the point of view of War supplies was strongly urged and it was agreed that the Central Government should again be approached for the grant of money for expanding the research programme of the Committee's Technological Research Laboratories.

Standardisation of Weights and Grades

Later in the day, among other matters, the Committee considered a reference from the Government of Bengal on certain recommendations contained in the Report of the Bengal Jute Enquiry Committee, 1939, regarding improvements in the marketing of jute. After discussion the Committee accepted the recommendation on the standardisation of weights and the prohibition by law of such deductions and allowances as were not declared to be permissible by the Provincial Governments. The recommendation about the establishment of regulated markets on an experimental basis with werehouses attached to them was also accepted. With regard to the recommendation about the standardisation of grades, and their maintenance, it was agreed that the existing grades of Top, Middlle and Bottom should be given statutory recognition and steps should be taken to set up, if necessary by law, an independent Board of Arbitrtion representative of sellers as well as buyers of jute. It was pointed out that the existing Board of Arbitration in Calcutta was constituted by members of only one Chamber of Commerce.

Village Grading Centres

To teach jute growers the principles of grading their fibre into the recognised trade standards and selling it on the basis of assortment, the Committee made a suitable provision in the budget for next year for the establishment of a few grading centres in Bengal on the lines of the scheme already at work in Orissa. Provision was also made for the Orissa experiment to be continued for another year, on condition that the Government of that province contributed 25 per cent of the amount required.

The progress reports and programmes of work of the various Sections of the Committee dealing with technological and agricultural research, marketing and transport enquiry, crop forecast improvement, statistics and information, and publicity were approved. A scheme for the provision of improved varities of seed was considered. A demand was made for the extension of the

Commitee's Price Dissemination Service, but it was felt that the Bengal Government should assist in financing it. The revised budget estimates for the current year were considered and those for 1941-42 were framed.

The session concluded with a vote of thanks to the President, proposed by Mr. W. A. M. Walker.

Members present included : Mr. P. M. Kharegat, C, I. E., I. C. S., (President), Mr. W. A. M. Walker, (Vice-President), Sir A. H. Ghuznavi, Khan Bahadur A. M. Arshad Ali, Dr. W. Burns, Mr. G. Euthymopulo, Mr. P. K. Goenka, Mr. M. A. Ispahani, Mr. I. G. Kennedy, Khan Bahadur Aulad Hossain Khan, Mr. H. A. Luke, Dr. S. K. Mitra, Mr. M. A. Mollah, Khan Sahib Nurul Amin, Mr. S. A. Rouf, Mr. S. K. Roy, Mr. P. N. Sen, Mr. N. N. Sen Gupta, Mr. Padampat Singhania, Mr. S. Solomon, I.C.S., and Mr. D. L. Mazumdar, I.C.S., (Secretary).

Mr. H. P. V. Townend, C.I.E., I.C.S., Commissioner, Burdwan Division, Rai Bahadur N. C. Sen, Director of Land Records and Surveys, Bengal, Mr. A. M. Livingstone, Agricultural Marketing Adviser to the Government of India, Prof. P. C. Mahalanobis, Mr. A. R. Malik, Senior Marketing Officer, Bengal, Mr. C. R. Nodder, Director, Technological Research Laboratories, Mr. A. S. Gillies, Manager, Technological Research Laboratories, Mr. A. S. Low, Senior Marketing Officer, Indian Central Jute Committee, Dr. S. A. Husain, Marketing Officer, Indian Central Jute Committee, Mr. K. C. Basak, Assistant Economics Officer, Mr. K. I. A. Quaderi, Assistant Publicity Officer and Dr. J. S. Patel, Jute Specialist, also attended the meeting.

Jute Regulation in Bengal

GOVERNMENT DECISION REGARDING 1941 CROP

"AFTER further careful consideration of the principal factors affecting the supply of jute and the world demand for jute and jute manufactures, as it is and as it is likely to be in the near future Government re-affirm their decision to regulate the area under jute in Bengal next year", says a *communique* issued on the 29th August by the Government of Bengal.

It is now clear, the *communique* adds, that the reduction of that area will be necessary in the interests of the growers themselves and Government are, therefore, determined to apply the provisions of the Bengal Jute Regulation Act, 1940 to the crop to be grown in 1941. Regulation will be strictly enforced and reduction of acreage to whatever extent may be necessary will be made.

Immediate steps are being taken to constitute and consult the Advisory Board provided for under Section 8 of the Jute Regulation Act. After consideration of the Board's advice, an announcement as to the extent of the reduction necessary in next year's sowings will be made as soon as possible.

Government have consulted the members of the Coalition Party in the Legislature and are in a position to announce that they have the full support of the Coalition Pary for the regulation and reduction of the acreage under jute in 1941 even if the extent of the reduction found to be necessary should exceed eight annas of this year's acreage. Government believe that they can count equally on the full support and co-operation of all concerned in this matter, which they regard as one of vital importance to the well-being of the growers of jute as well as of all interests connected with the jute industry in the province.

75 PER CENT. JUTE RESTRICTION

BENGAL COALITION PARTY'S DECISION

"In view of the alarming fall in the price of jute due to an unusually large stock and abnormal curtailment of demand on account of the war conditions, the Bengal Legislatures Coalition

Party, after giving the matter their most anxious and careful consideration, are definitely of opinion that the Government do reduce the next year's acreage under jute upto at least 50 per cent. and if circumstances allow upto 75 per cent".—This resolution was adopted at a meeting of the Bengal Legislatures Coalition Party held on Wednesday, the 28th August.

It was further resolved that "Government do take immediate steps to give effect to the scheme of restriction in accordance with the views recorded above".

ADVICE TO GROWERS

Another Press Note issued by the Bengal Government on September 2, states, *inter alia* :—

"Government have again on 29-8-40, officially announced that they have decided to regulate the acreage under jute in 1941 so that the quantity of jute which will be grown next year will be more or less equal to the probable demand.

"The crop this year is a very large one and, in all probability, there will be an excess of jute over the requirements of the present season. The effects of the war so far have been to decrease the demand for jute, especially the demand for the raw jute which is usually exported from India. Government believe that growers will realize what the position is and will understand that the reduction of next year's acreage must be made in the interests of growers themselves and with the sole object of maintaining the price of raw jute next year.

"Government are fully aware that large numbers of growers are not able to wait for long periods before disposing of their jute, but Government believe that there are very many growers who can wait for considerable periods and who in fact frequently do so when they reckon that by so doing they can get betters prices. Government believe that with the effective regulation which they are determined to enforce, the price which growers will get next season for their jute will certainly not be lower than prices now prevailing and may be considerably better. In these circumstances, all persons who can possibly afford to do so are advised to keep back for sale at a later date a proportion of the jute which they have grown this year and to spread their sales over a considerble period.

"All persons who are able to do this will not only stand to gain themselves but will also assist their poorer neighbours, who are forced to sell their crop over a much shorter period, in getting a better price this year. Growers can easily understand that it is better to sell only a portion of their crop at fair prices now or in the near future and to keep the remainder for sale at equally fair or even better prices later on than to dump the whole of the crop in the market immediately, as the latter course will inevitably cause prices to fall and all growers will suffer. Government strongly urge all who possibly can to follow this advice for the benefit of all concerned".

JUTE PORBLEMS IN BENGAL

ADVISORY BOARD SET UP

An Advisory Board, under the Bengal Jute Regulation Act, 1940, with Mr. H. S. E. Stevens, I.C.S., Special Officer (Jute) as Chairman, has been appointed by the Governor of Bengal, according to the *Associated Press* message, dated September 17. The Board will consist of 10 members.

The function of the Board will be to advise the Government on the question of the fixation of the quota in respect of the area on which jute may be grown by cultivators for the coming year, and any other matter concerning the regulation of the growing of jute which may be referred to it by the Government.

The members of the Board are :—

Mr. W. A. M. Walker, Chairman, Indian Jute Mills Association Manufacturers' representative ; Mr. B. Kanodia, Chairman, Calcutta

(Continued at bottom of Page 413)

Prices of Raw Jute

EFFORT TO CHECK DECLINE

INDIAN MILLS ASSOCIATION'S REQUEST TO MEMBERS

WITH a view to preventing the present temporary trading difficulties from adversely affecting the prices of raw jute and manufactured goods, the Committee of the Indian Jute Mills Association have requested the member mills to buy jute at rates not lower than Rs. 7 to Rs. 9/- per maund prices varying with quality, according to a press *communique* issued by the Association on August 31.

> ***Large orders for Sandbags***
>
> *The Government of India has placed an order with the Indian Jute Mills Association for 58,000,000 sandbags the manufacture of which will have to be completed by Decemder 15 of this year.*
>
> *The price has been fixed at Rs. 9-14 per 100 bags.*
>
> *This order will be distributed amongst all the Association mills who have been requested to stop the manufacture of 40 in. 8 oz. hessians during the currency of the order.*

The *communique* continues:—

"Generally war commodity prices have risen, and from the influence of this (increased wages and increased cost of essential commodities) neither the ryot nor the mills have been exempted. The Committee of the Indian Jute mills Association see no reason therefore why the temporary trading difficulties should be allowed to adversely affect the prices to be realised both for raw jute and manufactured goods. It is therefore their aim and wish to maintain the prices of gunny which was notified to the trade some time ago, and consequently also to maintain the prices of raw jute. But the realisation of the prices for gunny depends upon the ability of the mills to continue to pay for their raw jute,—prices of which range, dependent upon qualities, from Rs. 7 to Rs. 9/- per maund. The ryots have a crop which is far beyond what the mills in the present circumstances require but the Committee are at one with the Government of Bengal in their desire not to let the economic consequences of such overproduction fall on the ryot. The mills, therefore, have been requested to buy jute at rates not lower than stated above.

The future is not without prospects. Business is daily being done by buyers who have less than two months' stock in the bazar on which to operate, and they must therefore soon come to the mills for supply of their requirements. Orders for war goods are certain to materialise although no forecast of their extent or the time of their placing can be made. But the Association do have knowledge that orders through the Ministry of Supply for several million yards of 40 inch 8 ounce Hessian may soon be expected.

The Committee have appealed to the mills and also to other interested sections of the trade for their full co-operation, confident in the knowledge that if that is forthcoming their aims can and will be achieved.

(Continued from page 411)

Baled Jute Association—Pucca Balers' representative; Mr. Kanehialall Lohia, Chairman, Bengal Jute Dealers' Association—Kutcha Balers' representative ; Mr. P. N. Flangini, Chairman, Calcutta Baled Jute Shippers' Association—Shippers' representative ; Maulvi Mohamed Israil, M.L.A.,—Growers' representative ; Khan Bahadur Aulad Hossain, M.L.A.,—Growers' representative ; Mr. Ahmed Hossain, M.L.A.,—Growers' representative ; Mr. Surendra Nath Biswas, M.L.A.,—Growers' representative ; Mr. Jagat Chandra Mandal, M.L.A.,—Growers' representative and Khan Bahadur Ataur Rahman, M.L.C.,—Growers' representative.

3-Week Plan of Work in Jute Mills

I. J. M. A's Decision

The proposal to close the jute mills for one week every month commencing from September 9 met with the unanimous approval of all members of the Indian Jute Mills Association and therefore came into force from that date.

REASONS FOR PROPOSAL BY COMMITTEE

The Indian Jute Mills Association has issued a Press Note explaining the reasons which have induced the Committee of the Association to recommend to members that the mills should work three weeks of 45 hours and remain closed for one week.

After referring to the lack of shipping facilities and the consequent increase in local stocks, the Press Note states that the Committee have come to their present decision for two main reasons.

"It is imperative," the Note explains, "that in time of war the jute mills should be so situated that they can meet with efficiency and promptitude any demand made on them by the Government; it is essential also that they should have within their power a means of more rapidly adjusting their potential capacity to world demands in the light of the exceptional circumstances ruling in trade to-day which are unpredictable and which are subject to almost immediate violent change. This effect will be obtained, the Committee believe, by the closing of the mills for one week in four under an agreement which can be cancelled at the wish of the signatory mills or which can be extended after three months time by the Committee who have constantly the market position before them and are fully advised on all factors likely to influence it.

LABOUR WELFARE

"The further main point influencing them in their decision was: the labour position. The mills wish to retain with them those loyal workers who in the past months have by their endeavours aided in the accomplishment of the Government's rush orders and any action taken which dispersed them would adversely affect mills in their ability promplty to cope with any further Government demands for war materials. Again the mills did not wish to take action in the reduction of hours and the sealing of looms which would bring about unemployment especially at the present time.

"The mills were therefore guided in reaching their decision by a desire to afford the whole of the existing personnel an opportunity of earning for three weeks out of every four, greater money by the mills continuing to work longer hours than the situation justifies. Further, in respect of the closed week, the mills will pay to all the existing personnel an allowance which, in the case of the lower paid workers, amounts to half of the wages they would normally earn were the mills to work and slightly less in the case of the more highly paid workers. Wages were increased in November last in the jute mills by 10 per cent and this increase will continue to be given and taken account of in calculating the account of the allowance payable during the closed week.

WORK AND PAY

"The net result of this will be that the workers will be receiving during a month almost the same amount of money as would be the case were they to work for 40 hours every week and this sum is being given to a greater number of workers and prevents many being denied the opportunity of earning anything at all. The Committee have been advised by the Government and others in close contact with labour that the foregoing represents a method of approach in the control of production which will be most likely to labour in the present circumstances.

Orders for Camouflage Hessian and Grain Sacks

According to the Statesman of September 17th, further large orders have been placed with the Indian Jute Mills Association for camouflage hessian and Egyptian grain sacks.

"The price levels which the Committee of the Indian Jute Mills Association seek to attain for the mills are those which are reasonable and fair to all concerned and it must also be remembered that were these not maintained and preserved, the ryots would be disastrously affected in the low prices which their raw jute crop could command. This too has been a factor of the utmost importance in the consideration given by the Mills Association to this matter."

(Continued at bottom of Page 418)

Larger Imports Into Empire From India

SEVEN NON-EMPIRE COUNTRIES' RECORD

LOSS OF EUROPEAN MARKETS

The recent extension of the war in Europe has meant a loss of about 22 per cent in value on an average of the total Indian export of principal commodities and a loss of about 18 per cent of the total value of the total Indian export trade of all commodities with all countries during 1938-39, states a Simla message.

However, the off-take of about 7 non-Empire countries constituted a record. For example, in June 1940 Iraq imported Indian merchandise to the tune of Rs. 7,07,380 against Rs. 3,00,357 for the corresponding month of the previous year. Thailand increased her imports from India to Rs. 6,82,055 against Rs, 1,67,902 ; Egypt to Rs. 37,67,981 against Rs. 9,54,187 ; Portuguese East-Africa to Rs, 8,46,451 against Rs. 5,94,992 ; United States of America to Rs. 2,31,21,759 against Rs. 1,54,04,063 ; West Indies to Rs. 6,63,096 against Rs. 88,876 and South America to Rs. 39,54,953 against Rs. 20,41,215.

The total volume of Indian export trade to the British Empire stood at Rs. 10,37,08,942 against Rs. 7,75,52,005 in June, 1939. The United Kingdom alone imported from India merchandise to the value of Rs. 6,58,43,211 against Rs. 4,83,21,128 in June, 1939.

In the period April to June, 1940, the total value of exports of Indian merchandise to the British Empire was Rs. 31,17,57,606 against Rs. 20,48,98,295 during the same period in 1939. Out of this volume of trade the United Kingdom alone took goods to the value of Rs. 18,97,52,579 against Rs. 12,21,11,678 previously.

The total value of the export trade of India with all countries during 1938-39 was Rs. 1,62,79,00,000, and the total value of

India's export trade with the principal continental countries affected by the war during the same period amounted to Rs. 29,21,00,000.

There has been absolutely no export trade with U.S.S.R., Norway, Germany, Belgium, Austria, Czechoslovakia and Italian East-Africa for the past few months.

On the other hand, in June, 1940 exports to some of the remaining continental countries dwindled. Thus exports to Sweden dropped to Rs 3,861 in June, 1940 from Rs.3,89,890 in June, 1939 ; to Netherlands to Rs. 61,123 from Rs. 50,91,065 ; to Switzerland to Rs. 38,844 from Rs. 1,33,664 ; to Italy to Rs. 1,70,999 from Rs. 12,06,996 ; to Borneo and Java to Rs. 1,49,053 from Rs. 7,88,174 ; to Japan to Rs. 51,45,075 from Rs. 1,23,54,659 ; and other foreign countries to Rs. 13,30,290 from Rs. 32,99,766. Since June most of these markets have been further affected.

Percentage losses in the export of principal commodities from India to the continental countries are :—Seeds 56 per cent ; raw jute 54 per cent ; cotton 25 per cent ; raw hides and skins 33 per cent ; oil-cakes 41 per cent ; metals and ores 17 per cent ; cotton waste 49 per cent ; coir manufactures 38 per cent ; coffee 37 per cent ; lac 20 per cent ; bones for manufacturing purposes 95 per sent ; raw rubber 24 per cent ; spices 19 per cent ; manures 40 per cent ; black tea 1 per cent ; tanned hides and skins 2 per cent. The total value of the exports of these commodities to the European countries affected by the war amounted to Rs. 27,63,24,000 out of a total export trade of India in all these commodities amounting to Rs. 1,24,28,24,000. In other words the war situation has affected these commodities to an extent of 22 per cent. The Government of India are fully alive to the situation created and are actually examining the ways and means of meeting it.

Restriction Of Crops

CENTRAL GOVERNMENT EXAMINE POSSIBILITIES

The Government of India, I learn, are examining the possibilities of restricting the cultivation of certain crops, the export of which has either been considerably restricted or totally stopped on account of the war, states the Simla Correspondent of *Capital* in its issue of September 5. The proposals primarily relate to groundnuts, but examination also extends to jute, cotton and other such agricultural commodities. As Agriculture is solely a provincial subject, any action taken will be with the full consultation and approval of the Provincial Governments concerned.

The present examination is directed to ascertaining the extent of surplus stock of exportable agricultural commodities in the country. It is pointed out that the ideal solution would be to find alternative markets for these commodities, failing which control of cultivation of crops concerned becomes an imperative necessity. In this connection I learn that as soon as these proposals reach an advanced stage, the Government of India will convene a conference of Provincial representatives to elicit their viewpoint. Central legislation to empower the Government to control cultivation of certain crops is also believed to be on the tapis.

(Continued from Page 415)

WAR RISK INSURANCE ON GOODS

To secure the free movement of goods which has an important bearing on the maintenance of commodity prices throughout the country, says a Simla message, the Government of India have drawn up a revised scheme of war risk insurance on goods, the outstanding features of which are universal compulsion for all sellers of goods all over the country excepting Indian States and a premium of half anna per Rs. 100/- per month on goods valued at Rs. 20,000 or more. The scheme on which an ordinance has been issued will come into force from October 1, 1940.

Co-ordinating Agricultural Research and Practical Needs

CHANGES IN ORGANISATION OF I. C. A. R.

CENTRAL ECONOMIC COMMITTEE

DECISIONS of far-reaching importance to the development of agriculture and animal husbandry in India were taken by the Governing Body of the Imperial Council of Agricultural Research when it met in Simla at the end of August under the chairmanship of Sir Girja Shankar Bajpai, Member for Education, Health and Lands.

The Governing Body decided:—

(a) That the Advisory Board should set up small commodity committees consisting of members of the Board and of outsiders co-opted thereto, subject to a total limit of 10 to 12, apart from the headquarters staff of the Imperial Council of Agricultural Research.

(b) A Central Agricultural and Livestock Economic Committee should be set up, to co-ordinate the work of the commodity committees.

(c) More attention should be paid to developmental work, *i. e.*, to applying the results of research to the cultivator's practice.

As a result of these decisions, the existing comodity committees which, it was felt were too cumbersome, will be replaced by the new committees referred to above. An exception will be made in the case of the Sugar Committee, which is not financed from the general funds of the Imperial Council of Agricultural Research, but from the Sugar Excise Fund. Moreover, it deals with a commodity of which the problems are peculiar, both in their complexity and the rapidity with which fresh facets appear. No change in regard to this Committee was, therefore, considered necessary.

It will be the main purpose of the new commodity committees to co-relate *research* schemes with the practical needs of the country in respeet of each commodity.

AN ADVISORY BODY

The newly created Agricultural and Livestock Economic Committee will be a purely advisory body, having a balanced representation, whose function will be to co-orinate further the recommendations of the different commodity committees. They will advise on a consideration of the trend of world demand and prices of commodities, how the funds available should be allotted for research schemes on different commodities with a view to obtaining for the cultivators the maximum practical benefit. This will enable the Governing Body to make the best possible adjustment or distribution of funds as between the rival claims of different crops, and also between research and demonstration of the results of research.

It will be no part of the Central Economic Committee's task to formulate any proposal for comprehensive crop-planning, by suggesting expansion or curtailment of acreage of particular crops. They will be guided by the considerations of what is of immediate economic value to the cultivators.

The Vice-Chairman of the Council will be president of the Committee, which will consist of the Economic Advisor to the Government of India; the Director-General of Commercial Intelligence and Statistics; two representatives of the Associated Chambers of Commerce and the Federation of Indian Chambers of Commerce and Industry on the Governing Body of the Imperial Council of Agricultural Research, two representatives of agricultural and livestock producers chosen by the Chairman; and Secretary or Joint Secretary of the Education, Health and Lands Department. The two Commissioners to the Government of India (Agricultural and Animal Husbandry) will act as advisers to the Committee.

So far the Council has concentrated largely on reasearch, and not on the application of the results of research to practice in the cultivators' own fields. The Governing Body have decided to set apart Rs. 2,00,000 this year for the latter purpose.

Marketing of Jute

DEFECTS IN PRESENT SYSTEM

CENTRAL JUTE COMMITTEE'S RECOMMENDATIONS

THE general opinion that the present jute forecasts have proved of little practical value as correct estimates of acreage and outturn, is confirmed by the First Report of the Marketing Department of the Indian Central Jute Committee just issued. The volume represents a great deal of hard work and is full of valuable and interesting diagrams and statistics ; the latter give an indication of the efforts that have been made to obtain first hand information on many aspects, regarding which precise data had so long not been available. The report seeks to provide a comprehensive and authentic record of authoritative information on the marketing and transport of jute. Attempts have been made to add precision to many of the findings contained in it by quantitative estimates on a number of subjects, which, for lack of reliable data, have hitherto lent themselves only to qualitative analysis.

The report which covers more than 350 printed pages is the result of intensive enquiry in 26 jute growing districts. Starting with a consise, but complete, description of the present system of crop forecasting, the Report proceeds to examine at length the various stages through which the fibre passes from the grower to manufacturer or shipper as well as the details of the marketing organisation and the methods of buying and selling that are followed at all these stages.

One significant point emerging from the Enquiry is that growers disposed of more than two-thirds of their crop within 3 or 4 months of the commencement of the marketing season 1937-38. The Enquiry has also established that, during that season, growers sold 75 per cent. of their jute in villages, 20 per cent. in *hats* and only 5 per cent, in baling centres. The early sales and the disposal of three-fourth of the crop in villages are attributed mainly to the lack of growers' holding power, as well as to the prevalence of various market allowances and deductions, difficulties of rural transport, and dearth of storage facilities for growers in the markets. With a view to establish direct contact between producers and consumers, it is recommended that regulated markets, licensed warehouses, and Co-operative Jute Sales Societies should be started (first as experimental measures) in in villages, assembling centres and in Calcutta. The abolition by legislation of the existing market allowances has also been recommended.

While the utility of futures markets for agricultural commodties is acknowledged, no definite opinion is expressed about the necessity of such a market for jute. A number of reforms in the constitution of the East India Jute Association are, however, suggested the most important being the adoption of loose jute as the basis of futures trading and the confining of transactions to members only.

As the sale of jute in a completely unassorted condition, at all marketing stages upcountry, has led to the underestimation of quality by buyers, the universal adoption of sales by assortment and the introduction of grading in villages has been recommended.

It is also recommended that the classification and grading of jute should be fixed on scientific basis and experiments should be undertaken for the determination of the nrtural moistute in jute. It is further suggested that when these changes are effected, a system of arbitration similar to that followed by the East India Cotton Association should be adopted for jute as well.

The complete absence of an independent source of market information for growers is deplored and recommendation is made for the extension to all the jute growing areas of the Price Dissemination Scheme which was introduced by the Indian Central Jute Committee on an experimental basis last season and which has proved a great success.

A price structure, which is an analysis of the various costs incurred on the movement of jute from villages to Calcutta, reveals the interesting fact that the growers, on an average, received a little less than 81 per cent. of the Calcutta landed price of jute in October, 1937.

(Continued at bottom of Page 426)

Cordage Fibre Markets

INCREASED SHIPMENT TO U. S. A.

THE following is a review of the hard fibre markets published in the June number of the *Cord Age* of New York, prepared by Hanson and Orth, under date June 4 :—

Manila Hemp

The course of prices during the past month is shown by the following tabulation :—

	Davao		Non-Davao	
	April, 30	May, 28	April, 30	May, 28
CD ...	..	...	$7\frac{1}{2}$	$7\frac{1}{4}$
E ...	$7\frac{1}{8}$	$6\frac{5}{16}$	$6\frac{7}{8}$	$6\frac{1}{2}$
F ...	$6\frac{7}{8}$	$6\frac{1}{4}$	$6\frac{3}{4}$	$6\frac{1}{4}$
I ...	$6\frac{7}{8}$	$6\frac{1}{4}$	$6\frac{3}{8}$	6
S2 ...	$5\frac{3}{4}$	$5\frac{1}{4}$	$5\frac{7}{8}$	$5\frac{1}{2}$
J1 ...	$5\frac{5}{8}$	$5\frac{1}{4}$	$5\frac{1}{2}$	...
S3 ...	$4\frac{7}{8}$	$4\frac{3}{8}$	$4\frac{7}{8}$	$4\frac{5}{8}$
G ...	$4\frac{15}{16}$	$4\frac{3}{8}$	$4\frac{3}{4}$	$4\frac{1}{2}$
H ...	...	...	$4\frac{9}{16}$	$4\frac{1}{4}$
J2 ...	$4\frac{3}{4}$	...	$4\frac{1}{2}$	$4\frac{3}{8}$
K ...	...	...	4	$3\frac{7}{8}$
L1 ...	...	...	...	...

The pressings for the first twenty-two weeks of 1940 and 1939 were, respectively, 571,400 bales and 617,000 bales.

The shipments to various quarters for the same period were :

	1940 *Bales*	1939 *Bales*
U. S. A.	184,000	139,300
Europe	170,400	250,500
Japan	126,000	99,500
Elsewhere	49,600	38,100
	530,000	527,400

The increased shipments to the U. S. are partly accounted for by larger shipments for the U. S. Navy and by the shipments for the Army and Navy Munitions Board. It is estimated that the shipments for commercial manufacturers are not less than those of a year ago. The impression still prevails that the disappearance of commercially made rope is larger than the quantity of hemp being bought.

The drop in shipments to Europe is explained by the substitution there of American sisal for Manila rope.

The increase in shipments to Japan probably represents necessitous buying. The present ratio of Japanese consumption undoubtedly represents an irreducible minimum.

The increased shipments "elsewhere," while not of importance in comparative volume, may be taken as a token of the multiplication of rope factories in countries like India, South America, Africa, etc.

The future of the market depends almost entirely upon imponderable factors arising from the European War. These defy analysis or prophecy.

There is a report to the effect that freight rates from Manila will be advanced shortly, which is a sign of the tonnage scarcity which exists. The ghost of what happened to freight rates in the World War does not, however, seem to influence buyers.

Yucatan Sisal

The demand for binder twine and upholstery purposes keeps full pace with the production, and there is no sign of accumulation of stocks in Yucatan. Reports regarding the probable consumption of binder twine for the 1940 harvest continue to be encouraging. The freedom of Yucatan sisal from war complications tends to popularize it with buyers, and if present indications for a clean-up of binder twine are realized, the season of 1941 should see a heavy turn-over and higher prices.

The great reduction which has taken place in the shipment of binder twine from Europe and Mexico to the United States should stimulate American production. The accompanying figures illustrate this point:—

Imports of Foreign Binder Twine

(Figures are in lbs.)

—	7 Months Sept., '38— Mar., '39	5 Months Apr., '39— Aug., '39	Total for 1939	7 Months Sept., '39— Mar., '40
From Canada ...	178,052	8,682,737	8,860,789	1,240,030
,, Mexico ...	5,353,071	3,130 908	8,483,979	742 937
,, Cuba ...	1,024,675	3,100,701	4,125,376	1,377,596
,, Holland ...	2,529,239	16,604,097	19,133,336	296,948
,, Belgium ...	800,856	6,821,973	7,622,829	912,243
,, U. K. ...	10,564	2,319,382	2,329,946	...
,, Denmark ...	8,150	1,631,650	1,639,800	...
,, Elsewhere...	1,150	...	1,150	...
Totals ...	9,905,757	42,291,448	52,197,205	4,569,754

African Sisal

Whatever business is now being done is put through privately, so no market now exists in the ordinary sense of the term. Owing to " fixed prices " fluctuations are largely matters of fluctuations in the pound sterling. A fear exists in some quarters that " free sterling " may be outlawed for transactions in Africa which would involve the sellers in serious losses. On this account some sellers are not keen for transactions in this article.

Java Sisal

The complications attending the conquest of Holland by Germany make business in this article difficult. As a result one of the largest producing concerns is not offering at all at present. An advance in the freight rate also is reported to be imminent.

(Continued from page 422)

And out of the remaining 19 per cent., 10·1 per cent. was spent on handling and transportation, 3 per cent. was paid as market allowances and 6 per cent. was absorbed as standing charges of *kutcha* balers.

Many other problems—*e.g.* the watering of jute, adulteration of qualities, supply of improved seed at cheap rates, etc. have been examined at length and suitable remedies suggested.

The volume is called "Report on the Marketing & Transport of Jute in India", and can be obtained from the Marketing Department of the Indian Central Jute Committee, 4, Hastings Street, Calcutta, for Rs. 1/8/- or 2*s.* 6*d.* (foreign) each.

Conditions in Argentine

GENERAL COMMERCIAL SITUATION UNSATISFACTORY

ECONOMIC activities in Argentine, which had already been subjected to further repercussions as a result of the spread of European hostilities to Belgium and Netherlands, received another severe blow with the entrance of Italy into the war during the first two weeks of June, states *Commerce Reports* of July, 6.

General Business Conditions

The general commercial situation throughout the country is reported as unsatisfactory and in some quarters moratoriums are being advocated. Every effort in being made, however, to obviate the necessity for such action and the Ministry of Finance issued a plea that local banks avoid any measures restricting credit that would further accentuate the situation. As markets which normally absorbed about 25 per cent of the total Argentine export trade had already been lost, the invasion of Belgium and Netherlands and the entrance of Italy acted to narrowly restrict the foreign markets for Argentine products. The immediate consequences of Italy's declaration of war were the losses sustained through the cancellation of agreements for purchasing 6,000 tons of meat and 350,000 tons of corn for which no payments had been made. Moreover, the export trade with Italy has shown an increasing trend since October, 1939 and during the first 4 months of 1940 it amounted to 3,05,000,000 paper pesos as compared with only 4,500,000 in the same months of 1939. Likewise, Argentine imports from Itaty had risen from 9,083,000 pesos in the first 4 months of 1939 to 17,308,000 in the corresponding period of 1940. Another serious aspect of the situation is that, since the Argentine Government has prohibited Argentine vessels to sail for European waters, the country is isolated from Europe except for trade with Great Britain.

Therefore the export surplus of agricultural products, the sale of which heretofore depended so largely on those markets, is of growing concern, since not only are the producers affected, but the lack of foreign exchange normally accruing from these sales has created a financial situation to which the Central Bank is devoting close attention. In addition, the source of over 25 per cent of Argentine imports has been removed and the diversion of this trade to new markets makes necessary many adjustments. With the increasing diversion of purchases to the United States, partly as a result of the isolated position of Argentine, difficulty is being encountered in procuring dollar exchange, and further restrictions on imports from the United States have now been imposed.

Grain Trade Affected

These events were of such far-reaching proportions as to influence most branches of Argentine trade and finance, and to retard business activities to a considerable degree. Grain prices and security quotations registered a decline of such proportions as to cause the Government to intervene and, through the Grain Board, to take steps to limit daily fluctuations by fixing minimum prices, and to halt the slump in security prices by authorizing the Central Bank to support the market. Subsequent action under this authorization reacted favourably on stock market quotations. The success of the Federal Bond issues during the early part of May indicated an abundance of funds available for investments but it was also reported that a considerable amount of foreign capital was also invested in this issue. The decree of the ministry of Agriculture fixing minimum prices for grains did not, however, assume any obligation on the part of the Government to purchase all offerings. The result was that while the option market trading was limited to small proportions, exporters and millers were unable to pay the fixed minimum prices and operations were restricted.

Transactions in the official grain markets were practically suspended during the second week of June. Many operators attributed the stagnation to the Government's action of fixing but not guaranteeing prices, and agitation continued for a price of 4 pesos per 100 kilograms for corn and a guaranteed price for wheat at approximately current market levels for that grain. The disposition of the large corn surplus of between 7,000,000 and 8,000,000 metric tons is the principal marketing problem confronting the trade and the Government. Consideration is being given to the divertion of 5,000,000 or 6,000,000 tons of corn into fuel consumption, owing

(*Continued at the bottom of page 430*)

U. S. A.

IMPORTS OF RAW JUTE & JUTE GOODS

IMPORTS of raw jute and jute goods into U. S. A. according to the statistics compiled by the U. S. A. Department of Commerce are given below :—

Product	Countries of origin	May 1940 (Tons)	April 1940 (Tons)	May 1939 (Tons)
Raw Jute ...	British India ...	1,700	4,904	2,684
Jute Butts ...	„ „ ...	677	261	85
Total Raw jute and jute Butts ...	...	2,377	5,165	2,769
Burlap ...	British India ...	17,463	6,547	15,235
	United Kingdom	1,018	1,035	1,349
	Belgium ...	164	202	473
	Netherlands ...	24	...	111
	Others ...	...	...	816
	Total ...	18,669	7,784	17,984
Jute Bags and Sacks	British India ...	1,300	969	...
	Argentine ...	1	2	...
	Total ...	1,301	971	1,523

IMPORTS OF JUTE AND SUBSTITUTES IN 1939

The following table has been compiled from the *Commerce Reports* of July 13, 1940, showing the U. S. imports of jute and substitutes by countries of origin during 1939 :—

IMPORTS FOR CONSUMPTION

(Values in 1,000 dollars)

Country of origin	Jute and manufactures thereof	Flax, hemp, ramie and manufactures thereof.
United Kingdom	3,044	11,887
Rest of Europe	2,937	8,194
American countries including Canada...	164	21
British India	29,974	5
Netherlands Indies	83	...
Philippine Islands	...	26
Other countries	103	5,120
Total for all countries ...	36,305	25,253

(Continued from Page 428)

to the discontinuance of coal imports from England and the lack of adequate exchange to import needed quantities of coal and oil from other sources. Weather conditions were abnormal and heavy rains caused delay in field work. Nevertheless, prospects are for large crops of grains during the 1940-41 harvests.

The wool market was very dull, with practically no demand for better grades, since the loss of so many European markets has resulted in an excessive accumulation of stocks which may have to be resold. Stocks of wool on June 15 were reported to be 7,480,000 kilograms as compared with 2,500,000 on the same date of 1939.

Foreign Trade

Total exports during the first 5 months of 1940 amounted to 5,549,000 metric tons valued at 807,423,000 paper pesos, as compared with 5,147,000 tons valued at 645,863,000 pesos during the same period of 1939.

HESSIAN STOCK AND CONSUMPTION

Hessian stock and consumption figures of the United States of America excluding the Pacific Coast business, as reported by the Indian Jute Mills Association, are given below, the figures being in millions of yards :—

—	June		July		August	
	1940	1939	1940	1939	1940	1939
Stock	294	265	295	260	274	264
Consumption	49	47	54	47	55	54

NEW YORK PRICES

The *Daily Mill Stock Reporter* quotes the following prices of raw jute and jute goods prevalent in the New York Market, all the prices being nominal :—

—	Raw jute (Native Firsts) Cents per lb.	BURLAP (Hessians) Cents per yd.		OLD BAGS Cents per bag	
		8 oz. x 40s.	10 oz. x 40s.	100 lb. sugars	140 lb. starch
June 19, 1940 ...	6·85	5·70	7·20	3·63	6·13
June 26, 1940 ...	6·80	5·50	7·00	3·63	6·13
July 5, 1940 ...	6·80	5·55	7·15	3·63	6·13
July 12, 1940 ...	6·50	5·40	7·00	3·63	6·13
July 19, 1940 ...	6·50	5·40	6·95	3·63	6·13

BINDER TWINE IMPORTS

REDUCTION OF 73 PER CENT. IN FIRST QUARTER

A decline of 73 percent in the binder twine imports of the first three months of 1940, compared with the imports for the corresponding period of 1939 is shown by official report, states the June issue of *Cord Age*, New York. The total for January, February and March this year was 1,069,926 pounds, compared with 3,98,521 in the first quarter of 1939. The following table shows the imports by countries for the two quarters, figures being in pounds :—

Countries	*1st Qr.* *1939*	*1st Qr.* *1940*
Belgium	669,482	27,500
Netherlands	505,593	200,000
Canada	130,596	24,761
Mexico	2,506,911	146,065
Cuba	164,425	671,600
United Kingdom	10,514	None
Totals	3,987,521	1,069,926

The imports in March were 252,512 pounds, compared with 887,884 in the third month of last year.

BURLAP CONSUMPTION INDEX

The Burlap and Jute Association's monthly index of burlap consumption in th United States for June, 1940, was 81.4 per cent of normal, based on the nine-year period 1930 to 1938, inclusive, and adjusted for seasonal variation, a decline of 6.6 percentage points from 88.0 per cent in May of this year but an increase of 3.0 points above 78.4 per cent for June, 1939.

ISTLE IMPORTS

According to the U. S. Department of Commerce figures, imports of istle into the United States of America in April were 1,283 long tons of a value of $102,775, making a total for the first four months of this year of 3,842 tons valued at $310.642 compared with 2,194 tons valued at $151,492 in the corresponding four-month period a year ago.

This Year's Record Jute Crop

HOW THE BRITISH TRADE TAKES IT

SCARCITY OF FLAX

THE great increase in the area under jute for the coming season has come as a surprise to the jute trade in general, reports the London correspondent of the *Statesman* in his despatch, dated July 13. Though it has generally been expected that there would be an increase, no one thought that a record would be created this year, and the 4,112,750 acres should ensure an ample supply to meet all requirements.

It appears to be another case of expectations failing to be realized. No doubt the growers of jute have had in mind the great demand there was for jute goods during the last war and regulated sowings accordingly ; but, like most other members of the trade, they look like being disappointed. The type of warfare is different on this occasion, at least so far ; but there is no saying to what extent the use of jute goods may yet extend.

An important factor in the case is the scarcity of flax. With Russian, Latvian, Lithuanian and Estonian supplies entirely cut off and no more flax obtainable from the Continent (Belgium and Northern France), the U. K. linen trade is entirely dependent upon the Irish, English and Scottish crops, a mere bagatelle to the normal requirements, Already there has been, and still is, a good demand for the smaller sizes of jute yarns to mix with cotton and flax yarns, from which quite a good form of canvas can be manufactured, but it may come to be that this and purely flax goods will have to be substituted by goods made entirely of jute yarns. They will have to do the purpose for a time, and, as they would be much cheaper, can be replaced oftener. It is to be hoped that there will be a good supply of the better qualities of jute this season to meet the ever-increasing demand for the yarns.

SLOW IMPROVEMENT

Improvement in the Dundee jute trade is slow to mature, but it is gradually coming along. An increased demand has arisen for sandbags owing to the fears of invasion of our Island, against which preparations are proceeding apace, while there is an expanding trade in cement sacks made of jute owing to the great scarcity of paper.

A good number of works in Dundee are working on short time, some even three days per week only, but hopes are not yet dead that the industry will yet be running to full capacity in the near future. The worst fears at the moment are that those workers who are unemployed or are not receiving full employment, will be drafted into other and more vital industries for the carrying on of the war and when conditions in the jute trade change for the better there will not be sufficient workers available,

The latest figures of unemployment in the jute trade of Dundee, on June 17, were 3,039 wholly unemployed and 392 on short time, compared with 3,155 and 736 respectively on May 20. The apparent improvement in these figures may be due to jute workers being engaged in other trades or to men being called to the Services, as, according to spinners and manufacturers, there is still not much business being done.

(Continued at the bottom of page 435)

Dundee Prices

According to the telegrams received by the *Statesman* on London Commodity Markets, the prices of raw jute in Dundee were as follows :—

———	26th August 1940.	2nd Sept. 1940.	9th Sept. 1940.	16th Sept. 1940.
Firsts (£ per ton)	31½	29½	29½	30
Lightnings (£ per ton)	29	27½	25½	28

DUNDEE JUTE ARRIVALS

According to the *Jute Review* raw jute arrivals amounted to 658,000 bales during this season up to the end of April, which are 200,000 bales less than the corresponding period of the last year. However, 118,000 bales were afloat at that time, as against 48,000 last season. Total visible supplies amounted to 934,0 0 bales and were only 4 per cent smaller than the last season.

(*Continued from page 434*)

Prices for raw jute are expected to decline in view of the large jute crop, and spinners are, therefore, buying very little. They are, however, prepared to discount their quotations for jute yarns and 4s. 0d. would not now be refused for common 8℔ cops, while twist is obtainable at 7¾d. for 3 ply 8℔. and sacking yarns and are in request at 6d. for 24℔. weft and 7¼d. or 8℔. chains Rove continues quiet.

Cloth values are also lower at 5d. for 10½ oz. 40 in. 4. 72d. for 10 oz. and 3·82d. for 8 oz. which rates are cheaper than those quoted for Calcutta goods on the spot in this country. Supplies of the latter have been greatly depleted by the demand for sandbags.

Egypt

IMPORT OF JUTE AND GOODS

IMPORTS of raw jute and jute goods into Egypt during the month of May and the first 5 months of the year as recorded in the May number of the *Monthly Summury of Foreign Trade of Egypt* are given below :—

Products	Unit	May 1940	5 months January—May 1940
Jute Raw	K. G.	...	26
Jute Yarn, folded unbleached thick	K. N.	10,074	80,936
Carpets (Jute pure)	,,	470	5,980
Jute Sacks not reinforced with paper for Cotton ...	K. G.	369,305	1,316,218
Share of India	,,	369,305	1,306,397
Jute Sacks not reinforced with paper for Sugar ...	,,	37,237	239,074
Share of India	,,	37,237	239,074
Jute sacks not reinforced with paper for Seeds	,,	607,401	1,674,826
Share of India	,,	607,401	1,639,636
Jute Sacks not reinforced with paper for Onions ...	,,	15,207	972,014
Share of India	,,	15,207	971,496
Jute Sacks not reinforced with paper for articles not specified.	,,	900,878	3,174,478
Share of India	,,	900,507	3,137,537
Jute Sacks reinforced with paper	,,	155	54,597

China

IMPORTS OF JUTE, JUTE GOODS AND ALLIED FIBRES

ACCORDING to the May issue of the *Monthly Returns of the Foreign Trade of China*, imports of jute—raw and manufactured—and flax, ramie and hemp fibres into China are as follows, figures being in quintals :—

Product	May	January—May	
	1940	1939	1940
Raw Jute	7,076	41,390	35,172
Share of India	7,076	41,372	35,165
Hessian Cloth	1,223	3,796	5,109
Share of India	1,144	8,773	4,343
Gunny Bags (New)	7,027	3,986	21,376
Share of India	5,665	3,982	19,766
Gunny Bags (Old)	5,685	38,678	30,273
Share of India	3,634	18,029	9,804
Cordage, Twine and Rope ...	1,432	8,115	9,195
Flax, Ramie and Hemp Raw ...	1,356	6,896	4,471

JUTE CARPETS FOR SWITZERLAND

Imports of Jute carpets amounted to 921 quintals, worth 234,000 frcs. in 1939, as against 735 qu. valued at 183,000 frcs. for the year before, states the June number of the *Jute Review.* Italy was the main source of supply with 756qu. worth 191,260 frcs. All other countries supplied only small quantities. From France came 79 qu. worth 19,000 frcs ; from C. S. R. 67 qu. worth 17,900 frcs ; from Belgium 12 qu. worth 3,600 frcs ; and from Great Britain only 8 qu.

FIBRE INDUSTRIES IN SWEDEN

A SHORT SURVEY

According to a survey conducted by the Swedish Department of Commerce, the flax, hemp and jute industry in Sweden consists of one flax spinning mill, six flax weaving mills, one combined flax mill and five jute spinning mills, all having a total of 2,938 workers and an output value of 22,738,000 kronen, reports the June number of the *Cord Age.*

Associated industries include 49 manufacturers of tape, cords and curtains, 14 roperies, 24 manufacturers of awnings, tarpaulin and similar goods and seven manufacturers of roller blinds.

Skandinaviska Jutespinneri och Vafveri Aktiebolaget, Oskarstorm, a leading concern is Sweden's spinning and weaving industry, produced jute yarn valued at 3,915,784 kronen last year.

FIBRE CULTIVATION

BRITISH UGANDA

Experiments in the cultivation of several fibre plants have been conducted, with indifferent results, in Uganda, British protectorate in East Africa, it is shown in the report of the Kampala Plantation there for the first half of 1939, says the June number of *Cord Age.*

Attempts to prepare a bulk sample of fibre from *Abroma augusta* have been handicapped by the poor germinating quality of the seed ; continual replanting was necessary. Other fibre plants recently tried at Kampala include Manila hemp *(Musa textilis)* and *Hibiscus kitaibelifolius.* A sample of Manila hemp prepared last year lacked the usual lustre and strength of Manila hemp, says the report. The present crop shows little promise, as does that of *Hibiscus kitaibelifolius.* Only a few plants were raised from seeds of the latter from Rio de Janiro, and these have made short spreading growth.

MANILA HEMP BALINGS AND EXPORTS

Balings of hemp in the Philippines during May reached a new high level for the current year, showing a gain of about 26 per cent over the preceding month and of nearly 8 per cent over May, 1939, according to a report from the American Trade Commissioner at Manila. The cumulative total of balings for the first five months of 1940, however, was nearly 11 per cent less than that of January-May, 1939. The Davao district accounted for 56 per cent of the total May production, which is a new level for recent months, and compares with 47 per cent for April.

Total balings in May amounted to 132,000 bales, against 105,000 bales in the month preceding. For the first five months of this year, balings totaled 532,000 bales, compared with 595,179 bales in the same time of 1939, and 444,836 bales in 1938.

Exports during May recorded an increase of 31 per cent over the low April figure but were 14 per cent smaller than in May of last year. Exports in the month of May, 1940, were featured by substantial shipments to the United States, Great Britain and Japan, but exports to continental Europe and miscellaneous other countries were extremely small.

Total exports in May were 124,000 bales, against 95,000 bales in April last. Exports for the first five months of this year totaled 532,000 bales, contrasted with 525,029 bales a year ago and 394,204 bales two years ago in the same time.

Exports to the United States and Canada were 37,000 bales in May, and 174,000 bales in the first five months of the current year, against 137,829 bales last year and 70,304 bales in 1938.

ITALIAN HEMP PRODUCTION

The endeavours of the Italian authorities to increase the acreage under hemp have met with only partial success. The plan to cultivate 150,000 hectares with hemp, could only be fulfilled to the extent of two-thirds, owing to lack of fodder. It represents, however, still a marked progress compared with previous years. In 1935, 68,000 hectares were under hemp, the cultivation gradually expanded and reached 90,000 hectares last year.

A NEW SUBSTITUTE FOR JUTE

According to the *J. Indian Chamical Society (Industrial & News edition, Vol. 3, No. 2, 1940)*, technical results obtained from *Macambira* fibre grown in Brazil show that it can be used successfully in manufacturing bags, canvas and a variety of products when mixed with the 'caroa' fibre. For both the fibres there is abundant raw material in Brazil. Industrial utilisation of these fibres was initiated by the Fabrica Yolanda, S. A.

FIBRE PAD

POLISHING AND EDGING WORK.

Constructed from the strongest vegetable fibres and well balanced to cut down vibration, a new, light-weight Co Ro-Felt pad is being offered by the Columbian Rope Co. as a more durable substitute for old style felt and rubber pads for polishing, floor sanding and edging work, reports the *Cord Age* of June.

Use of the new pad reduces assembling time because the entire assembly of nuts, bolts and plates for old pad centres is eliminated by Co-Ro-Felt's tough, moulded centre. The new product has added resilience for fast sanding and its uniformity guarantees feather edging.

NEW FIBRES FOR CANVAS

PRODUCTION OF SISAL CLOTH

According to the June issue of the London *Jute Review* a Government order for fabrics manufactured from sisal produced by the Sabner process has been placed. It may be recalled that Mr. Marc Sabner developed a process of manufacturing "Dix fabric" from sisal. It was first used for hose-pipes which were said to be not subjected to deterioration or mildew. It was further claimed that percolation of water through it was little, and bursting pressure very high. Further investigations have been carried out meanwhile, and it is reported that the new process will be used for the production of canvas, webbing equipment, as well as for hose-pipes.

(Continued at the bottom of Page 441)

Meeting The Paper Shortag

The world shortage of pulp for paper-making is creating a new demand in Britain for unusual raw materials in the United Kingdom and from overseas.

Research chemists seeking to replace the 2,000,000 tons of pulp used every year by British paper mills are substituting the straw of oats and other cereals for the 300,000 tons of esparto grass imported annually. Reeds, covering an extensive acreage in Norfolk and Suffolk, are being converted into pulp and the possibilities of bracken and potato haulm are also being investigated.

The Indian pulp industry is already using bamboo with success and vast quantities of it are available in Burma, India, Kenya, and the West Indies. Experiments indicate good potentialities in elephant and Tamboukie grass from Africa, and lalang grass from Malaya, Ceylon and Papua, Reeds and papyrus from the Nile may also be of service.

The possibilities of such agricultural wastes as cotton plant stems from Egypt, India and the United States ; Indian rice straw ; and the vast quantities of Indian, Canadian and Argentine linseed straw are all being explored.

Apart from research, British supplies of paper will be maintained by a throughly effective collection of waste paper and strict economy of the finished manufacture.

(Continued from Page 440)

A NEW PATENT

PICKERS FOR JUTE WEAVING LOOMS

According to *Jute Review*, a British patent has been granted to Messers. Lawrence Ormerod & Song Ltd., Freehold Mills, Sawforth, Rochdale (No. 520,280). It relates to pickers for jute weaving looms. Its object is to provide pickers less susceptible to internal wear and which have improved lubrication arrangements. The picker is made up by folding layers of hide back upon itself with an enlarged fold and is characterised by a bush elevated in the fold and adopted to slide on the spindle. The bush comprises a wrapped textile fabric impregnated with a synthetic resin. The bush has a portion cut away to from on oil chamber and is of a length slightly less than the width of the picker and will be arranged so that both ends of the bush lie below the end faces of the picker.

TRADE NOTES

CUTTINGS FROM THE BRITISH PRESS

Weakness of Jute

Jute has been conspicuous during these past few weeks by the feeble tendency of the markets in Calcutta and Dundee. More recently it has been reported that the jute trade in Dundee expects an improvement of demand owing to the possibility of delays in the arrival of raw material, and an increase in enquiries has, indeed, been noted. The factor is, however, unlikely to alter the position of the world market to any material extent. The weakness of the jute market, at a time when other Eastern commodities experience a pressure of demand both here and in New York, is due in the first place to the apparent failure of the measures hitherto taken by the Bengal Government for the stabilisation of the price of jute. The Government has announced its intention to buy a limited, though substantial part of this year's crop in order to keep prices above a minimum, but this statement of the Government's policy has not been sufficient to prevent a further decline bringing the quotation of first below the minimum price. The weak tone must, secondly, be attributed to the continuing reports of very favourable crop prospects. Finally, news from the important consuming countries suggest that the demand during the coming year will, if anything, be smaller than was expected a few months ago. The whole of the Continental market has been lost as a result of the war, and from the United States it is reported that consumers of jute who, owing to the excessively high prices ruling before the end of last year, had changed over to other materials have not all returned to jute as prices decline to more normal levels. Great encouragement is, of course, given in the United States to the use of cotton bags as a substitute of hessians. They are more expensive but offer special attractions which cannot be claimed for jute bags. —"*The Statist*" (June 22, 1940)

Exports to Mediterranean

The Board of Trade have made the Export of Goods (Control) (No.16) Order, 1940 (S.R. & O., 1940, No.959, price ld.), which came into force on June 13. Under this Order the export of all classes of goods to Bulgaria, Greece, Hungary, Liechtenstein, Roumania, Switzerland, Jugoslavia and Black Sea ports in the U.S.S.R. is prohibited except under board of trade licence. This step has been taken as a result of Italy's entry into the war, in order to enable the necessary control to be exercised over exports to the Mediterranean and adjacent areas. It is not, however, to be regarded in any sense as a decision to discontinue trade with neutral countries in these areas.

A revocation of outstanding licences for exports to the destinations in question has been issued at the same time (S.R. & O., 1940, No.960, price ld.); this does not preclude the issue of fresh licences in appropriate circumstances. Further, the revocation does not affect existing open general export licence for coal, coke and manufactured fuel, under which the procedure for the issue of coal export certificates by the Mines Department was established. This procedure will be continued and no coal can be exported to these destinations without an export certificate. "*The Statist*" (June 22, 1940)

British Industrial Developments

In the home jute industry during the past month, little of importance has taken place. Business has generally been slow, but the Dundee jute trade expects to be running at full capacity in the near future. The Belgium and French jute industries are now lost to the Allies, and Dundee will have to produce jute goods of various descriptions to replace those which have been lost in the evacuation of Belgium and France. In addition, the requirements for the defence of our own country are likely to be enormous. Fortunately, arrivals of Calcutta goods in the shape of sandbags and camouflaged hessian have been on a large scale and these are now likely to be of value, though they have recently been a disturbing factor to the Dundee industry, which has been, and still is, curtailing production by stopping machinery or working short time. Prices have been forced down, but spinners and manufacturers are now not so anxious to sell. The Government, through the Jute Control, may now acquire the whole of the production of Dundee and commandeer supplies of Calcutta goods. The prospects for the new crop are favourable.—"*The Economist Trade Supplement*" (June 29, 1940)

Loss of European Markets

The war has not, of course, been felt with equal force by all American producers. Its effect was probably greatest in the coffee trade ; the restrictions on civilian consumption of luxuries in many European countries and difficulties of shipping have resulted in a severe contraction of exports in many coffee growing countries. It has been felt less severely in the sugar producing countries of Central America, as the continuation of American purchases on a large scale and the placing of very important orders by the British Government have enabled these countries to sell most of their exportable surplus ; on the other hand, the smaller States of Central America have been hit very severely by lack and irregularity of shipping. The extension of agricultural production by introduction of new crops has generally proved an advantage, but the disposal of some of the Government-assisted productions is meeting with great difficulties ; this applies especially to cotton, though British purchases are understood to have brought relief to several South American States. The problem of disposing of surplus agricultural products is especially difficult in the case of certain commodities of which the United States are also a surplus producer, cotton and tobacco in particular in other trades where the position appears somewhat critical, as for coffee, the large American market places the authorities in Washington in a very strong position.—"*The Statist*" (June 22, 1940).

Monthly Notes on Progress of Schemes

THE following is a short review to indicate the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

The work on the preparation of the Committee's Annual Report for the year 1939-40 and the Review of the work of the Committee for the years 1937-40 was completed in the first half of August and these publications were printed and circulated to the Committee for approval in proof form.

Necessary papers in connection with the Meetings of the Main Committee from the 4th to 6th September, 1940 and the various technical Sub-Committe which met in conjunction with it were prepared and circulated to the members during the latter part of August.

A meeting of the Local Sub-Committee was held on the 2nd September at which several routine administrative and financial matters were considered in order to lighten the work of the Main Committee. The Special Sub-Committee which was appointed to consider the question of stabilisation of jute prices held its last meeting on the 3rd September.

A brief summary of the proceedings of the Main Committee will be found on pages 402—408 of this bulletin. The draft proceedings of the meeting were circulated to the members and actions on the various recommendations and decisions of the Committee are now being taken. The revised budget estimates of the Committee for 1940-41 and the budget estimates for 1941-42 as approved by the Committee have been sent to the Government of India for sanction and provision of funds.

Marketing and Transport

The printing of the First Marketing Report was completed during the third week of August and it was decided in consultation with the Secretary, that it would be released to the public on 3rd September, 1940.

The Senior Marketing Officer was fully engaged during the month in preparing notes for the Committee's Eighth General Meeting scheduled to be held from 4th to 6th September, also in drafting sections of the Second Marketing Report dealing with the expansion of the jute mill industry in India and abroad, the processes of jute manufacture, etc.

Some difficulty has been experienced by the Marketing Staff in tracing information of a nature that would enable a critical study to be made of the factors affecting the overseas demand for jute and its products. This has entailed the examination of trade journals of all descriptions and the yield of relevant information has been meagre. It is highly essential to get the most complete data available on the overseas trade for inclusion in the Second Report, and every effort is being made to do so. All possible sources of information are being tapped and in this connection acknowledgement is made to the Director of Commercial Intelligence, the Secretary of the Indian Jute Mills Association, the Trade Commissioner for the United States of America and the numerous firms who have helped the staff in their enquiries.

Agricultural Research

The *Capsularis* variety Fanduk was harvested at Dacca and Faridpur farms.

Some evidence of natural cross-pollination in *Olitorious* has been obtained. Observations on the anthesis of jute were made.

One of the early *Olitorious* selections has flowered within 67 days as against 93 days for the standard type Chinsurah Green. Hybridization work in jute is progressing according to the programme. To find out whether the thickness of the stem is inherited, thin and thick-stemmed single plants have been isolated.

A severe epidemic of a stem disease of jute was reported from Hairmara (near Narsingdi, Dacca District) by the President of the Hairmara-Alockbari District Board. The area was visited and surveyed. The disease was so severe that the people talked of forsaking the land. The collected material is under examination.

Technological Research

Further work is in progress to investigate methods of improving the quality of cuttings.

In order to compare the quality of cuttings a robust apparatus has been constructed by means of which the bulk to which a standard weight of cuttings is compressed when subjected to heavy loads can be determined. Preliminary trials have given promising results.

The moisture regain results on the further five samples of fibre referred to last month are now available. Evidence is accumulating to show that exposure of jute samples to light and air appreciably reduces the hygroscopicity of the fibre. This requires noting in work designed to determine the equilibrium regain of jute under various atmospheric humidities for the purpose of obtaining data on which normal standards may be based.

The possibility of using jute waste for making compressed pellets that might do in place of corks for stoppering bottles etc. has been investigated at the suggestion of the Agricultural Adviser with the Government of India. Pellets made in a tablet press under moderate pressure were found to swell and disintegrate in a few days owing to the absorption of moisture, but it is proposed to make tests under higher pressures and with the addition of binding materials.

In the chemistry laboratories, work has been done to compare the "uronic anhydride" content and furfural yield of root-cuttings of a range of qualities and further exploratory experiments have been made on the chemical retting of mechanically extracted fibre.

Improvement of Jute Forecast

The field work in connection with the Sampling Census of Jute in Bengal was completed in all the eight districts by the 30th August. The data collected was sent to the Statistical Laboratory for analysis. It is hoped that the final report of the Statistical Adviser on this year's survey would be available next month.

The crop-cutting experiment began in the first week of August and the cutting of the samples continued up to the 20th of the month. All the remaining work in connection with these experiments has now been completed and the records have been sent to the Statistical Laboratory for analysis.

The work on the collection of thana and mauza maps which would be required for next year's Provincial Survey is being continued and is expected to be completed before the Puja Holidays.

Statistics and Information

World consumption of jute in 1939-40 has been estimated and a note giving the figures is published elsewhere in the *Bulletin.* Some of the data on which the calculations have been based are provisional and the estimate for 1939-40 is thus also provisional. This estimate will be revised as soon as final data are received, but it is anticipated that the final estimate will not materially differ from the provisional one. A detailed analysis of the world consumption in 1939-40 will not be possible until such time as the data confidentially received from official sources are published in the official journals. One significant fact about the estimate for 1939-40 is that it fairly bears out the forecast for 1939-40 made in the report on world consumption of jute in 1938-39 which was prepared by the Assistant Economics Officer in February, 1940.

Further investigations into causes affecting the demand for jute have been carried out. The relative movements in the consumption of jute from year to year have been correlated with the corresponding movements in the quantum of world trade. Similar correlations have been worked out by splitting up the total world trade into three categories, *viz.* trade in foodstuffs, raw materials and manufactured articles. It is hoped it will be possible to publish the details of the correlation analysis in a suitable form, in due course, when the investigations into this problem are completed.

This will take some further time, but meanwhile the results obtained so far are briefly as follows :—

Correlation with	Correlation.
Total world trade ...	... Highly significant.
Trade in foodstuffs ...	... Not significant.
Trade in raw materials ...	... Highly significant.
Trade in Manufactured articles	... Fairly significant.

It should be borne in mind that these results refer to the relative annual variations of the trade in the different categories of commodities. The absence of correlation in the case of foodstuffs is to be explained by the fact that the world trade in foodstuffs is less variable than jute consumption and trades in other materials. A comparison of the variances of the different factors correlated clearly bears out this conclusion.

The estimate of export of raw jute during the 1939-40 season has been revised and the revised figure of 30·1 lacs of bales shows a reduction of 22·4 per cent.

Publicity

It has been an unusually busy period for this Section—the First Report of the Committee on the Marketing and Transport of Jute in India being out of the press this Section was entrusted with the responsibility of obtaining publicity for it; the result has been very satisfactory: the summary of the Report issued in the form of a Press-Note has been published *in extenso* in almost all the important daily papers and periodicals, in Bengal, Bihar, Orissa and Assam; liberal extracts from the Press-Note have also been used in the *Commerce* of Bombay and some other trade journals and some of the papers have also taken notice of it editorially.

Four Press-Notes were issued in connection with the eighth meeting of the Committee, which was held in the first week of this month. These also found a prominent place in the columns of almost all the important dailies and periodicals of the jute growing provinces and also in those of the Bombay *Commerce.*

The opportunity is taken to acknowledge with thanks the co-operation and help that the Press and the two News Agencies have been extending to the Committee.

PRICE DISSEMINATION SERVICE

The Price Dissemination Service has now been extended to Bihar and it is expected that arrangements in Assam will be completed by the time the present issue of the *Bulletin* is in print.

NEXT ISSUE OF THE BULLETIN

It may be stated here for the information of the readers of the *Bulletin* that the publication of the next issue may be delayed a little on account of the Pujah Holidays.

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CONTENTS

PAGE

Indian Prices During September 451
Index Number of Prices 454
Monthly Variation of Exports 455
Production and Consumption of Jute 456
Stocks of Raw Jute—Revised Figures 456
Problem of Jute Prices 457
Jute Futures Market Enquiry 464
Surplus Stock of Jute 465
Jute Restriction in 1941 465
Cordage Fibre Markets 468
Conditions Affecting Jute in Argentine 470
U. S. A. 476
U. S. A. Cotton Bag Campaign 477
Dundee Prices 478
China 478
Trade between Turkey and India 479
Substitute Goods in India 479
New Fibre for Sacks 480
Utilization of Fibre by-product 480
Treatment of Jute Fibres 481
Rs. 4,00,000 Scheme for Growing Flax 482
Flax Research 483
Kenya Flax 484
Grading and Baling Rules 486
Position of Sisal 487
Ramie as Flax Substitute 488
Fibre Production and Trade Items 489
Export Group of Jute Machinery Manufacturers ... 493
Monthly Notes on Progress of Schemes 494
Conversion Table ... ... *Inside back cover.*

Indian Prices during September

TONE STEADY AT CLOSE OF MONTH

LOOSE JUTE

EARLY in the month the market was quiet with mills and *pucca* balers showing little interest and sellers pressing for business at considerably below the agreed minima; small business in Indian Jat Middle at Rs. 8/8/- per md. was reported by mills and in Tossa by *pucca* balers. The apathetic conditions continued till the middle of the month and covering business was reported at well below the agreed minimum prices. Later, there was a steadier feeling and the balers bought small quantities of District Tossa Middle at Rs. 7/- to 7/4/- per md. while moderate business in European White and Tossa Middle and Bottom and Indian District Tossa at the agreed minimum prices was reported by mills.

This was followed by an easier feeling and sellers were again pressing for business at discount rates. The market, however, steadied owing to renewed interest by mills and the following business was reported during the last few days of the month.

European Middle and Bottom ...	Rs. 9/-	per md.
Indian Jat Top	„ 9/10/-	„
„ „ Middle	„ 8/8/-	„
„ „ Bottom	„ 7/8/-	„
„ District Middle	„ 8/4/-	„
„ „ Bottom	„ 7/4/-	„
District Tossa Bottom	„ 7/-	„

PUCCA BALES

The prices have been well maintained and a steady tone has prevailed owing to a sustained demand from overseas markets. Dundee Daisee 2/3 have featured most, with business reported early in the month at Rs. 31/- per bale for October, and late in the month at Rs. 32/12/- per bale for October-November delivery.

The other items of interest have been Outport Reds at Rs. 38/8/- per bale for November-December to Rs. 39/- per bale for October, Outport Firsts from Rs. 32/- per bale for November-December to Rs. 35/- per bale for December and Outport Tossa 2/3 at Rs. 30/8/- per bale for October. The local mills were reported to have paid Rs. 30/- per bale for Outport Tossa 4's. The market was firm at the close with shippers interested in Dundee Daisee 2/3 at Rs. 32/12/- per bale and in Outport Tossa 2/3 at Rs. 33/- per bale for October-November shipment.

JUTE FABRICS

Hessians

The month opened with an all round advance in prices which were quoted as under on the 2nd September.

	Sept.	*Oct.*	*Nov./Dec.*
9 porters	Rs. 10/1/-	10/1/-	10/1/-
11 ,,	,, 14/3/-	13/12/-	13/6/-

The order for 58,000,000 sandbags for October-December delivery stimulated buying in 9 porters and business was done up to Rs. 10/14/- which was not maintained owing to profit falling and prices subsequently declined by about seven annas and at the close the prices were—

	Sept.	*Oct.*	*Nov./Dec.*
9 porters	Rs. 10/7/-	10/7/-	10/7/-
11 ,,	,, 14/10/-	14/6/-	14/2/-

This was followed by a brief period of inactivity and prices on the 5th had receded to Rs. 10/- for 9 Porters and Rs. 14/1/- for 11 Porters Ready.

Renewed interest both in 9 and 11 Porters soon steadied the market, the prices registered an advance, being Rs. 10/9/- and Rs. 14/12/- far 9 and 11 Porters respectively on the 6th September.

Thereafter the prices were fully maintained with fluctuations within narrow limits till as a result of covering business both in 9's and 11's the rates firmed up to Rs. 10/13/6 and 15/2 Ready on the 13th and advanced on the 16th to Rs. 11/0/6 and 15/4/- for Ready owing to interest shown by shippers. During the next few days, although the volume of business was small the undertone remained steady till a further advance in prices was registered, owing to enquiries of a covering nature which were met by sellers with reserve. The following were the prices on the last day of September—

	Ready	*Oct.*	*Nov.-Dec.*
9 porters	11/6/-	11/7/-	11/7/-
11 porters	15/7/-	15/6/-	15/-

Heavy Goods

A steady tone has prevailed in this section more in sympathy with the Hessian prices than owing to actual demand. The prices on the 2nd September were as follows—

B. Twills	... Rs. 28/-	September delivery.
Liverpool Twills	... „ 32/-	
Cornsacks	... „ 30/8/-	

The rates gradually increased till as a result of covering business the prices were as under on the 16th September—

B. Twills	... Rs. 30/10/-	Ready.
Liverpool Twills	... „ 34/6/-	
Cornsacks	... „ 33/-	September delivery.

These prices were maintained for the rest of the month with moderate interest being taken. The prices at the close were firm being Rs. 31/- for B. Twills, Rs. 34/12/- for Liverpool Twills and Rs. 33/- for Cornsacks, for September shipment.

Index Number of Prices

CALCUTTA JUTE

(Base : July, 1914=100)

Period		Raw Jute (1)	Manufactured Jute (2)	Ratio % of (2) to (1) (3)
Average of 1914-18	...	77	140	182
„ „ 1919-23	...	100	142	142
„ „ 1924-28	...	114	156	137
„ „ 1929-33	...	59	88	149
„ „ 1934-38	...	49	69	141
„ „ 1939	...	80	102	128
Av. of Jan-Aug., 1939	...	70	80	114
September, „	...	77	117	152
October, „	...	76	126	166
November, „	...	119	175	147
December, „	...	130	172	132
January, 1940	...	124	146	118
February, „	...	130	130	100
March, „	...	100	114	114
April, „	...	99	111	112
May, „	...	85	97	114
June, „	...	80	94	118
July, „	...	63	95	151
August, „	...	53	85	160
September, „	...	53	101	191

August was the worst month for jute prices since the outbreak of war. On a percentage basis raw jute declined more than manufactured jute and there was a further widening of the disparity between the two prices. In September prices of raw jute remained unchanged, but prices of manufactured jute took a sharp turn upwards. This left a very wide gulf between the levels of the two prices which is reflected in the abnormally high value of the parity ratio.

Monthly Variation of Exports

JUTE FROM INDIA

(Figures are in 1,000 tons)

Months	1940 or 1939-40	1939 or 1938-39	1938 or 1937-38
RAW JUTE			
May	36·0	43·9	46·5
Sept.-May	458·2	575·6	555·5
July-May	516·4	659·5	630·8
JUTE MANUFACTURES			
May	101·2	73·5	74·1
Sept.-May	890·5	701·0	737·8
July-May	1071·2	872·2	920·2
RAW JUTE AND JUTE MANUFACTURES			
May	137·2	117·4	120·6
Sept.-May	1,348·7	1,276·6	1,293·3
July-May	1,587·6	1,531·7	1,551·0

There was a further recession in raw jute exports in May which recorded a fall of 7% as compared with the corresponding fall of 22% and 2% in 1939 and 1938 respectively. There was, however, a substantial rise in the exports of manufactured goods as compared with previous years. The total export in May was thus 15% higher than the 1939 figures and 12% higher than the 1938 figures.

Production and Consumption of Jute

RAW PRODUCE

According to the *Indian Trade Journal* **jute arrivals** into Calcutta and mills outside the Calcutta trade block (excluding road arrivals and arrivals into mills by boats) were as follows :—

From July 1, to October 12, 1940	18,57,000* bales
From July 1, to October 12, 1939	34,22,000 bales

Exports of raw jute from Calcutta and Chittagong from 1st July to 14th September, 1940 and during the corresponding period a year ago were 1,91,000 bales and 4,52,000 bales respectively.

Stocks of Raw Jute

REVISED FIGURES FOR 1940

Figures for the **stocks of raw jute** held by the **Indian Jute Mills** at 30th June, 1940 and published in the August issue of the Bulletin (page 314) have been revised. A statement showing the revised figures is given below :—

(lacs of bales 400 lbs. each)

Mills reporting	19·70
Mills not reporting (estimated) ...	0·20
Total for all Mills	19·90

Manufacture of jute goods during September, 1940 by the mills reporting to the Indian Jute Mills Association are given below :—

Sacking Bags	(in 1,000s)	29,476	or	31,758 tons
Hessian Bags	(„)	10,930	„	3,221 „
Sacking Cloth	(in 1,000 yds.)	4,038	„	1,730 „
Hessian Cloth	(„)	94,829	„	25,710 „
Others				2,693 „
Total				65,112 „
Total during August, 1940				1,05,984 „

The *Indian Trade Journal* reports the following **exports of manufactured goods** from Calcutta during the period from 1st January to 14th September :—

	1940	1939
Sacking Bags (in 1,000s) ...	302,677	303,996
Hessian Bags („) ...	653,058	286,176
Sacking Cloth (in 1,000 yds.) ...	49,838	25,566
Hessian Cloth („) ...	1,159,944	902,605

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*Incomplete

(*Continued at the bottom of page 457*)

Problem of Jute Prices

GOVERNMENT POLICY

STATEMENT IN BENGAL ASSEMBLY

A STATEMENT on jute prices was made by the Commerce and Finance Minister, Mr. H. S. Suhrawardy, at the concluding meeting of the Monsoon session of the Bengal Legislative Assembly on September 19.

The Minister also outlined the Government policy in regard to jute. The statement was in reply to a question.

Mr. Suhrawardy said that he was aware that prices in the mofussil had been sagging lately owing largely to absence of strong buying demand for low quality jute and the encouragement which was being given in certain quarters to the notion that the crop would be an enormous one and far in excess of all probable requirements. Nevertheless, he was satisfied that it was quite incorrect to say that the level of prices any where had fallen to Rs. 2 per maund. The general level of prices in the mofussil was considerably higher, specially for jute which was of a better quality.

In considering the prices of jute for the current season there were two important factors to be borne in mind. First, the quality

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(Continued from page 456)

The following are the stocks of manufactured goods (cloth and bags) as reported to the Indian Jute Mills Association by its members :—

	End of September		End of August	
	1940	1939	1940	1939
Sacking (lacs of yds.) ...	2,034	1,513	2,404	1,830
(Tons) ...	86,906	64,350	99,879	76,806
Hessians (lacs of yds.) ...	2,548*	2,949	3,019	3,663
(Tons) ...	62,799	70,861	72,698	86,645

*Out of the total September hessian stock 246 lacs of yds. represent sandbags and 718 lacs of yds. of 8 oz. cloth weighing 16,053 tons. The corresponding figures (sandbags) for August were 213 lacs of yds. and 842 lacs of yds. hessian cloth (8 oz.) weighing 19,437 tons.

of this year's crop generally was not very good. Reasons for this were principally the lack in many areas of adequate steeping water at the right time and the fact that in many places jute had been grown on unsuitable land. Secondly, the crop had been much later than was expected. The result had been that the proportion of the crop so far offered for sale had been less than usual in a normal year. At the same time, it must be admitted that the buying demand had not been keen except for good quality jute, which unfortunately was scarce and for which satisfactory prices were being paid.

Compared with the abnormally high prices prevailing at the end of 1939, present prices might be said to be low, but there was no doubt that the high prices ruling at the end of 1939 could not in any event be maintained in present conditions of world trade. Considering the actual conditions of world trade and the actual demand for jute and jute goods at the present time, the fall in the price could hardly be called abnormal.

With the full co-operation of the growers in selling their crop as evenly and as slowly as they could and of the mills in keeping up their purchases steadily and in accordance with their usual rate of buying any serious downward tendency in prices was expected to be checked and the prices aimed at under the agreement with the mills maintained.

AGREEMENT WITH MILLS

Replying to another question, the Minister said that it was a condition of the agreement between Government and the Mills Association that so long as the mills carried out their own part of the agreement and bought jute at their usual rate of buying, Government would refrain from any legislation to fix prices.

Government were still bound by that condition and intended to adhere to it so long as the mills adhered to their undertaking. But, of course, Government would be free to take such action as might appear necessary to them to maintain prices if the mills withdrew from the agreement or failed to do their part under its terms; or the agreement proved otherwise ineffective. He was watching the situation very closely.

Continuing the Minister said: "The disposal of that portion of the crop which the trade may be unable or unwilling to take up at prices—which may be considered as reasonable for the growers is a question to which Government have given and are giving the closest attention. It is obvious that the first step to this process must be to reduce the size of this 'surplus' to the smallest possible dimension by inducing the consuming interests to take up as much as they possibly can. How much those interests can and will take depend upon two factors. First the demand for their manufacture and, secondly the prospects in regard to raw jute prices next season.

"The first factor is practically beyond the control of this Government. The second is under our control to the extent to which we can by effective regulation reduce the size of next year's crop, so that it together with this year's carry-over shall be approximately equal to the likely demand for the next season. Regulation, therefore, is the principal means at our disposal for inducing the consumers of raw jute to buy and hold over the surplus not wanted for consumption this year."

"It is, therefore, on regulation of next year's supply rather than purchase of this year's surplus that Government feel inclined to rely. Actual purchase by Government might involve financial liability of a very large order which, in the absence of any special funds on which to draw for dealing with the jute problem generally, the Government might not be prepared to incur.

"For this reason I am examining other methods which Government might, if necessary, employ to afford assistance to the carrying-over of surplus crop for future consumption, while at the same time ensuring to the grower a reasonable and economic price.

"Although the whole of Governments' policy regarding jute is based fundamentally on regulation of future crops to any extent that may be necessary, and they welcome the full support which the Coalition party has given to them in this matter, we feel that a minimum price cannot be fixed immediately nor are there any circumstances to warrant a minimum price of Rs. 10 at present. The sandbag order which is welcome involves only three lakhs of maunds of jute, which is an insignificant proportion of the available crop. It would be exceedingly unwise to rely on a repetition of similar orders in the near future and equally unwise to count on a very small surplus crop this year. In existing circumstances a minimum price of Rs. 10 could not be justfied or maintained.

MINISTER ON PRESS CRITICISMS

Replying to criticisms that followed the above statement, the Hon'ble Mr. H. S. Suhrawardy, Minister for Finance, Commerce and Labour, issued the following statement towards the end of last month :—

"My attention has been drawn to criticisms in the press regarding Government's jute policy which is likely to do much more harm than good to the agriculturists, and I, therefore, think it advisable to clear the position.

"In order to appreciate the jute position this year, some sailent facts have to be borne in mind. Firstly, there is not enough good quality jute or rather the proportion of good quality jute this year is much less than in normal years. Secondly, the low quality jute is owing to certain reasons often worse than what the trade call Bottoms. Bottoms are of a special quality saleable and usable in the mills, but this year there are qualities much worse than Bottoms. This is due to some facts which I pointed out in my statement in the Assembly. Jute has been grown on land unsuitable for it. The quality therefore has deteriorated. Jute has been allowed to overmature on the soil owing to lack of steeping water. This had led to bad quality jute and dirty fibre. Jute has been cut and has been steeped in dirty water after some time. This again has spoiled the quality. It cannot be expected that jute of such poor quality can fetch normal prices payable for Bottoms.

STRAY TRANSACTION IS NO CRITERION

"As regards purchase and sale, purchase has been restricted. This is a deplorable feature but is not quite inexplicable. The mills are reluctant to buy unless they can sell their finished products on the other side, with regard to this it must be remembered that they have not sold anything since July as the minimum price which they have fixed for their manufactured goods has not yet been reached. Secondly, they feel reluctant to buy at prices which they consider to be higher than economic prices. Thirdly, their reluctance is reflected in the middleman. He also does not buy if he cannot sell to the jute mills. He does not buy for stocking unless he can get at the lowest price and there is some chance of sale to the mills, as he is really not a stockist but believes in turnover. Fourthly, all the usual agencies of buying and selling have not yet been opened in the mofussil. There are some places therefore where there are no purchasers and hence stray transactions in these places can hardly be considered to be a criterion of ruling prices. Less crop has been sold this year than is usual for this period. The cultivator has shown an enormous power of resilience. He has followed the advice issued by Government not to sell unless he gets good prices and not to sell only good quality jute such as *Middles*, but to sell *Middles* and *Bottoms* together. He has behaved splendidly and in most places has reaped the benefit of following Government advice. Within the last fortnight or more prices have been firm. The cultivator realises futher that the time for purchase is coming.

"Middlemen who have sold, must purchase in the mofussil and cover their sales. The mills also cannot hold away from the market for any length of time and must purchase more jute, and realizing this position the price is rising in the trade areas. I am in constant touch with the trading centres and I get daily prices from most of the centres, and hence I think I am in a better position to judge the prices prevailing in the trading centres than panic stricken people. I shall indeed be glad to know where *Bottoms* are sold for two rupees as has been alleged in certain quarters. It must be remembered that jute of Bottom quality and jute bottoms are not the same thing. There are middlemen I am told who would be only too glad to purchase Bottoms at Rs. 4-8 to Rs. 5-8 provided of course they are of usable quality. The price of course varies with the distance. I set out the prices prevailing in some of the bazars on September, 26:—

(Jute prices on September 26)

	White.		*Tossa.*	
	Mid.	*Bot.*	*Mid.*	*Bot.*
Dacca District :—	Rs. as.	Rs. as.	Rs. as.	Rs. as.
Narayanganj	7 8	5 8	8 4	6 8
Dacca	7 12	5 8	8 8	6 8
Narsingdi	7 8	5 8	8 12	7 0
Tarpassa	7 8	5 4	...	...
Tippera District :—				
Chandpur	7 4	5 4	...	...
Akhaura	7 8	5 8	...	...
Ashugunge	7 8	5 4	...	...
Hajigunge	7 4	5 4	...	...
Mymensingh District :—				
Niklidampara	7 12	5 4	...	...
Kishoregunge	7 0	5 0	7 12	6 8
Netrokona	7 8	5 8	...	...
Mohangunge	7 4	5 4	...	...
Mymensingh	7 8	5 0	...	...
Sarisabari District	5 8	4 8	6 12	5 4
Sarisabari Jat	7 8	5 8	...	...
Elashin	7 4	5 0	...	...
Pabna District :—				
Nakalia	6 8	4 12	7 4	6 4
Faridpur District :—				
Charmugria	6 8	5 0	7 8	6 8
Jobsa	6 6	4 14	7 6	5 6
Barhamgunge	6 8	5 0	7 4	6 4
Goalunda	7 0	5 0	7 8	6 4
Rangpur District :—				
Gaibanda	7 0	4 12	...	...
Noakhali District :—				
Choumunai	7 0	5 0	...	...
Cooch Behar District :—				
Haldibari	6 12	5 4	...	...
Jalpaiguri District :—				
Jalpaiguri	7 0	5 12	...	...

"As stated in my statement in the Assembly I am watching the situation closely. I want to see if genuine effort is made by the mills to honour their agreement. If they do not do so, I shall have to interfere in one way or another. I hardly think they will take the risk of being considered unreliable as they will be inviting Government interference at every turn. Regulation is a strong weapon in our hands. We have decided only to grow one-third of our crop next year, and we hope to get the co-operation of the other provinces. There is no doubt about it that this curtailment must stimulate buying in those persons who wish to stock, as next year they will be able to get back their prices easily with considerable profit.

"I have pointed out frankly that I am not prepared except under extreme circumstances to involve Government in a big financial risk as that of purchasing the entire surplus. We have got to look to the welfare of the agriculturists not for one year but for all time to come, and in an attempt to keep him up for one year, I think it would be bad policy to involve the Government of Bengal in a financial commitment which it would take several years of close parsimony and curtailment of nation-building activities to surmount.

GOVERNMENT POLICY

"It has been asked why we purchased jute at the end of the last season. The replies given by the Hon'ble Mr. Tamizuddin Khan, Minister-in-charge of Agriculture and Industries made it clear that the jute was purchased at the end of the year to keep prices and to start the new crop with a good price. Had the new crop started with five or four rupees or less, we would now have been selling Middles at Rs. 3 and Bottoms at Rs. 2 or Re. 1-8. I have every hope that the money which has been laid out by Government will be retrieved, as the jute which has been purchased by us is probably better in quality than any produced this season and is bound to be in considerable demand towards the end.

"There are many hopeful signs. The best sign is that the cultivator is not selling unless he can get his price and he is definitely continuing to demand a higher price which is more in parity with the Calcutta minimum price. Secondly, there is bound to be a revival of purchase. Thirdly, the movement of the crop will get slower and slower as the season advances and less crop will be available in the bazar. Fourthly, the jute crop is not going to be as considerable as it was earlier supposed. As the season advances it will be found that much of the jute crop will not have been cut and will have been ploughed in by the cultivator. Fifthly, good quality jute is in great demand and is fetching even higher than the minimum price. The *Azad* is right in saying that I am trying to keep to the agreement. I think up till now the policy of Government has been justified, and last year our cultivators definitely were in clover at least those who followed Government advice.

"It must not be forgotten that the mills are now practically the sole purchasers of jute, and unless it is apparent that they are not acting in terms of the agreement it will be hardly proper to antagonize them. If that is done, who will buy? We are taking measures to see that the price of jute is maintained, and I think I am right in saying that the extent to which we have gone in regulating next year's crop will go a long way towards keeping prices up. For their own safety and to prevent jute prices from soaring to an unimaginable extent next year, the mills will be well-advised to buy this year and stock as much as they can at the somewhat favourable prices which they are getting now.

Jute Futures Market Inquiry

According to the "United Press," Mr. J. A. Todd, a British expert in futures markets with experience at Liverpool has been appointed by the Bengal Government to investigate the working of the Jute Futures Market and to suggest modifications so that high fluctuations and the consequent depressing effect on growers of jute may be prevented.

"I do not think that we shall serve the cause of the agriculturists by losing our head or getting panicky. His safety lies in following our advice. If the confidence which he has in Government is shaken and he begins to throw all his jute on to the market, nothing in the world can save him. In view of all that we have done and all that we are doing and propose to do in future when necessity demands it, I would appeal to those who are the true friends of the agriculturists not to lose their sense of proportion but to advise them on the lines in which we are advising and keep up their spirit."

Surplus Stock of Jute

PURCHASE SCHEME

BENGAL GOVERNMENT'S LOAN OF RS. 15 CRORES

The Government of Bengal, it is reported, have submitted a proposal to the Government of India for a loan of Rs. 15 crores, states a Simla Correspondent of the *Amrita Bazar Patrika* in a message dated September 5.

The object of the loan is to finance a scheme of jute purchase according to which the Government of Bengal want to purchase the surplus stock of jute. In the opinion of the Government of Bengal the investment will be quite safe since the price of jute cannot go down in view of the two-third crop restriction scheme to be adopted in the next season.

It may be noted in this connection that the Government of Bengal have already issued a 'communique' stating that there will be compulsory restriction of crop next season and the extent of reduction will be two-thirds of the 1939-40 acreage.

JUTE RESTRICTION FOR 1941

GOVERNMENT MEASURES

"No person may grow jute in Bengal in 1941 without first obtaining a licence and the area that will be allotted to each individual grower will, subject to the provisions of Section 10 of the Act, be only one-third of the area recorded in his name in the record of jute lands that was prepared during the current season. Any person who grows jute in 1941 without a licence and any person who grows jute on an area of land exceeding that specified in his licence will be liable to serious penalties."

Thus states a 'communique' issued by the Bengal Government on the operation of the Bengal Jute Regulation Act.

In a notification issued on 26th. September, 1940, under Section 9 of the Bengal Jute Regulation Act 1940, Government declared that the total area of land on which jute may be grown in 1941 shall be only one-third of the total recorded area on which jute was grown in 1940.

To explain the reasons for this very considerable reduction of the acreage under jute, the Government of Bengal in the 'communique' state :—

Government have repeatedly announced that the fundamental basis of their policy in regard to jute is regulation of the size of the crop so as to bring supply into line with demand. Without this regulation, no other action which Government can take would be effective in achieving the object of Government's policy which may once more be restated as the securing to the growers of jute as remunerative and as stable a level of prices for their produce as would at the same time secure to the industry a reasonable margin of profit without raising the prices of jute manufactures to a level which would adversely affect the demand for them in the world's markets and, therefore, ultimately adversely affect the interests of the growers.

The crop of the current year is a very large one. Abnormally high prices prevailing at the end of last year and mistaken ideas as to the effect of the war on the probable demand for jute encouraged growers to increase the area of their sowings to a considerable extent. In fact, in many cases jute was sown on lands which are not suitable for it. Owing to the war and the difficult trading conditions which it has brought about, the demand for jute and jute products has fallen off. The result is that there is certain to be a surplus of raw jute which cannot be consumed this season. This will have to be carried over to next season and it is, therefore, imperative that the production of raw jute in 1941 must be curtailed in order to absorb this surplus and bring the supply and demand to about the same level.

The position in regard to supply and demand was carefully considered by the Advisory Board constituted under the Jute Regulation Act at a meeting held on 23rd. September. That Board which consists of six members appointed to represent the growers of jute, four members to represent trade interests and one official, recommended to Government by a majority of votes that next year's crop should be reduced by 75 per cent. Government considered this recommendation and the estimates upon which it was based and came to the conclusion that they could not accept it in full. They are, however, convinced that very considerable reduction is absolutely necessary in the interests of the growers and their decision, after careful consideration of all the factors involved, is that the acreage of next year's crop shall be only one-third of the acreage sown with this year.

Steps will now be taken under the provisions of the Bengal Jute Regulation Act to enforce this decision. No person may grow jute in Bengal in 1941 without first obtaining a licence and the area that will be allotted to each individual grower will, subject to the provisions of Section 10 of the Act, be only one-third of the area recorded in his name in the record of jute lands that was prepared during the current season. Any person who grows jute in 1941 without a licence and any person who grows jute on an area of land exceeding that specified in his licence will be liable to serious penalties.

The preliminary work of allotting areas on which jute may be grown and the preparation of draft licences for the consideration of the Union Jute Committees that are being set up will commence from the 16th October. Notices informing all concerned of the procedure to be followed will be issued throughout the jute-growing area in good time.

Government trust that all concerned will co-operate with them to make the regulation of the acreage in 1941 effective and they appeal to all persons of influence and authority in the mofussil to assist the staff of the Jute Regulation Department to carry out the work of allotment and preparation of licences as smoothly and expeditiously as possible.

Cordage Fibre Markets

THE following is a review of the hard fibre markets published in the July issue of the *Cord Age*, prepared by Hanson & Orth, New York, under date of July 1, 1940:—

MANILA HEMP

The commercial buyers have been quite indifferent during the past month, which is not to be wondered at considering the complexity of world affairs, the operation of which may or may not make hemp "a good gamble".

The consensus of opinion on the part of buyers appears to be that it is better not to make commitments of any magnitude, and to take whatever chances which may be involved in such a policy.

Government buying has been on an increased scale. Since January 1 the Navy has bought 31,774 bales and the Procurement Division of the Treasury has bought 14,800 bales. There is no way of comparing the amount of these purchases, 46,574 bales with the grand total of all purchases, but a rough guess would be that they equal around 20 per cent.

An advance in freight rates of about 10 per cent. has been announced, effective July 15. Using the freight to Atlantic Coast ports as a basis means that the increase represents about 15c per 100lbs.

The action of market prices has been variable. Davao Grades E, F and I have declined 3/16c to ¼c, but S2, J1, S3 and G have scored fractional advances. The tone of the market to-day is steady to firm, notwithstanding the indifference of the commercial buyers.

This is partly due to the psychological effect of increased Government purchases as reflected upon prices in the Davao market; also to the tendency of production to decrease in the non-Davao districts of the Philippines.

The shipments of hemp from the Philippines during the last half-year periods have been as follows:

—	Jan.-June 1940	July-Dec. 1939	Jan.-June 1939
U. S. A.	234,900	236,900	166,600
England	149,400	200,700	157,000
Continent	44,200	84,100	130,800
Japan	151,400	165,600	117,100
Elsewhere	61,900	50,100	45,600
	641,800	737,400	617,100

MEXICAN SISAL

The conclusion now seems quite positive that the manufacture and sale of binder twine in the United States for the grain harvest of 1940 have been on a considerably augmented scale. Consequently the disappearance of Mexican sisal has been of sufficient volume to dissipate any surplus stocks which may have existed in the hands of manufacturers.

The complexities attending world conditions make this market a day to day affair and all transactions are on the basis of firm bids cabled to the producing market.

The *Henequeneros de Yucatan,* while desirous of supplying buyers' requirements, is not pushing sales; one of the reasons for which no doubt is the recent advance in the value of the Mexican Peso. There have been indications of a renewal of the demand from Europe, which is likely to become a definite factor in the situation if shipments from Mexico can be arranged.

AFRICAN SISAL

Very little is known about the actual position of this market. The newspapers report clashes between Italian and British forces in Africa, but no information is forthcoming about the effect which these may have had upon the production of sisal there.

(Continued at the bottom of Page 481)

Conditions Affecting Jute in Argentine

BUSINESS IN BAG TRADE QUIET

The following is the full text of Mr. W. J. Jackman's Monthly Report No. 32 on conditions affecting the Jute trade in the Argentine Republic

General Conditions

The inevitable reduction in the export trade of the Republic is more and more making itself felt. Great Britain is the only important market left for meat and meat products, and her purchases have fallen off in recent weeks. The surplus remaining of wheat is now so small that exports have been prohibited by the Government, with certain exceptions. With the exception of maize, of which there are generous supplies, but little export demand, the exportable surpluses of other grain and seed crops are insignificant. A further shrinkage in the favourable balance of trade for the current year is therefore inevitable under existing international conditions.

In the month of June there was an import balance of $4¼ million pesos. For the first half of the year the result of foreign trade was an export balance of over $97 million pesos, which compares with $192 million pesos in the corresponding period of 1939.

Naturally in a country which is as dependent upon its foreign trade as is this Republic, the unsatisfactory conditions now prevailing in that trade are largely reflected in domestic business. This has fallen off in volume, although the situation is as yet by no means serious.

Unemployment is a probable future problem, to which the National Government is devoting preferential attention.

Crop News

The unduly wet and mild weather of June was continued throughout July, completing three months of unusually detrimental conditions for the field crops. The sowing of **wheat** in some of the most productive zones was very backward. The area planted, which was expected to show an increase over that of last year, is now practically certain to be smaller. Linseed also will probably show a reduction, and will likely be below the five-year average. The **maize** crop, now almost all picked, but only a litte shelled, because of the continuous wet weather, will probably be found to have shrunk in volume and deteriorated in quality through weather damage. Much of the crop is stored on the farms in open cribs a large percentage of which are roofless.

Wool stocks declined during the month of June. On July 1st there were 53,242 tons on hand, as compared with 58,107 tons on June 1st.

The Jute Trade

Representations have recently been made to the Government by delegates of the various trades directly and indirectly concerned in the building industry, urging that steps be taken to stimulate private building enterprise, and that public works be executed, preferentially those which would be revenue producing, so that they would constitute investments rather than mere expenditures. 200,000 workmen are said to be normally employed in the construction industry, and the delegation declared that "unemployment is not a phantom but a reality".

A slackening in the demand for meat for export has been responsible for the packing plants being somewhat less busily employed recently.

Shipments of frozen meat to France and other Continental countries have quite ceased; whilst the assuming by Great Britain of the contracts made with her ex-Allies has meant that the meat prepared for the fulfilment of those contracts, which was retained here in storage, is now being shipped to the United Kingdom, and correspondingly smaller quantities are being ordered by the British Government.

In the bag trade business is quiet. The movement of the old crop, except maize, has dwindled considerably; and prospects for the new crop are very obscure. Most of the maize crop is being held on the farms unshelled, partly because of weather conditions and largely because of official propaganda against shelling, with loans from the official bank easily obtainable on the security of the grain provided it is unshelled. Hence the farmers are in no hurry to offer their corn for sale. Nor are they in urgent need of bags for shipping it.

Under these conditions the tendency is for stocks of bags in the hands of manufacturers and dealers to grow. Statistics on the subject are not readily available ; but it is hoped to include the figures for the half year ending June 30th in my next report.

The bag and jute trade is under the control of an official board, and as usual in such cases statistical information is somewhat late in being made public.

Jute Prices

As will be seen from the following list of current official prices, these are a little lower than a month ago. The old rates are shown in brackets.

Canvas		9 oz × 40″	25 c.	per yd.	(28c.)
		10 ,, × 40″	26½c.	,, ,,	(29¼c.)
		10½ ,, × 40″	27¼c.	,, ,,	(30¼c.)
		16 ,, × 27″	29½c.	,, ,,	(32½c.)
Tarpaulin		22 oz × 44″	67c.	,, ,,	(70c.)
Special Yerba Cloth		17-18 oz × 36″	72c.	,, ,,	(82c.)
		17-18 oz × 40″	79c.	,, ,,	(?)
New Bags.	Maize	9 oz × 48″	35½c.	each	(38½c.)
	Barley	9 oz × 52″	39c.		(42c.)
	Oats	9 oz × 58″	42c.		(45c.)
	Wheat	10 oz × 47″	37c.		(40c.)
	Flax	10 oz × 50″	39¼c.		(42¼c.)
	Flour	10 oz × 52″	40¾c.		(43¾c.)
	Maize Pickers	75 × 120	(·75 × 1·20 metres)	$1·23	($1·26)
Used Wheat bags A quality,			26½c.		(26½c.)
B ,,			24½c.		(24½c.)
Best Patent Twine, 4 threads, local manuf.			$ 2·10	per kilo	
Best Patent Twine, imported, prices only nominal					($2·10)

Importations

One cargo arrived from **India** during the month of July. The "Clan McTaggart" brought 5,053 bales of jute and 9,388 bales of canvas.

From the **United Kingdom** there came 472 bales of yarn ; 75 bales of cloth ; and 20 bales of fabrics ; Arrivals from **Brazil** were 120 bales of yarn ; 66 bales of cloth ; and 79 bales of fabrics.

Brazil as an Exporter of Jute Goods

As will have been seen from the lists of importations given monthly in these reports, Brazil, although on a relatively small scale, is growing in importance in this trade.

According to figures supplied by the Director of the Statistical Service of the Brazilian Ministry of Finance, Brazil in the year 1939 only exported 112,390 kilograms of jute goods, of which 88,663 kilograms were shipped to the Argentine and 23,727 kilograms to Uruguay. These goods were classified as "Unspecified Jute Manufactures".

It would, however, appear from the recent steady flow of jute goods to this country that an effort is being made by the Brazilian millowners to develop the trade. Already in a small way Brazil supplies various lines of cheap cotton goods to the Republic, in competition with Japan and other countries where low wages and a low standard of living prevail, and apparently from this point of view she is in a good position to extend her textile export trade. In point of equipment, however, she is somewhat handicapped by her mills and machinery being old-fashioned and out of date. Still there appear to be possibilities of some development of her jute exports whilst other producing countries are excluded from the trade by war conditions.

SUMMARIES OF MR. JACKMAN'S REPORTS
Nos. 30 AND 31

The following paragraphs contain the summaries of the Reports, Nos. 30 and 31, on the conditions affecting the jute trade in the Argentine Republic and the neighbouring countries, which have been received only recently, although they were due long ago, from Mr. W. J. Jackman, the Argentine Correspondent of the Indian Central Jute Committee :—

REPORT No. 30.

The economic consequences of the European war are being more and more felt in the Argentine. With the Scandinavian countries and the Netherlands already lost, the entry of Italy in the war has now closed the other markets, and businessmen are showing some anxiety as to the future course of events and their reactions here.

In order to stop the very heavy price fluctuations in the grain markets the Argentine Government followed the example of the United States of America and Canada and took steps to set a limit to the daily fluctuations of prices in the Option Markets and established minimum pricess for the various products dealt with in them. But as the minimum prices so fixed, soon rose above international levels business became very difficult and shrank in volume.

Official control of the operations in jute bags has been tightened by a decree which extends supervision to flour mills and yerba mate factories.

In consequence of the practical closing of some of the usual markets for Argentine meat, grain and other primary products and also of the present high prices for jute canvas and bags, there is a growing tendency to restrict purchases as far as possible to cover current need.

During May Argentine imported 1,882 bales of jute and 7,082 bales of jute goods. All of the raw jute and 6,302 bales of jute goods came from India.

A delegation of members of Cotton Growers' Co-operatives waited upon the Minister of Agriculture and urged on the Government to pass a law making the use of cotton bags for all national products so that all or the greater part of the low grade cotton produced in the country might find an outlet. The minister promised preferential attention to this matter.

Imports of jute and jute goods into Peru during 1939 and 1938 are as follows, the figures being in gross kilos :—

	1939	*1938*
Bags (New or Used)	10,174,065	7,365,623
Share of India	9,311,926	6,684,319
Sacking or Hessian cloth	727,509	732,517
Share of India	669,783	624,121
Jute and other textile fabrics ...	3,800	1,412
Twine or yarn	263,401	315,483
Share of India	154,986	208,439
Plated jute for Alpargata soles ...	44,421	53,762

REPORT No. 31

Argentine exports in May were valued at $17½ million pesos more than her imports, and the export balance for the first five months of the year was over $100 million pesos.

With the collapse of French resistance against the German aggression the Argentine trade lost almost the last of the Continental European markets still available for her produce. During three months five of her best customers for agricultural products have been lost to the Republic. Consequently internal trade is falling off; more commercial failures are recorded, and unemployment seems to be steadily increasing.

According to the final calculation of the cotton crop 74,200 tons of fibre is looked for. The yield of fibre shows much improvement. This is due to the official campaign in favour of the use of improved seed.

Due to the abnormal rise in the cost of materials a decline in the building construction is now becoming increasingly evident. The meat trade and packing plants appear to be nominally busy again. The alpargata industry is apparently well employed.

During June there has been an advance in prices of all classes of jute goods. Of the 1,651 bales of raw jute and 11,451 bales of jute goods imported into Argentine during June 1,649 bales of jute and 10,411 bales of jute goods came from India.

Imports of jute and jute goods into Brazil during 1939 and 1938 are given below :—

		1939	*1938*
Jute Raw (Kilograms)	...	26,144,949	25,271,456
Share of India („)	...	23,471,627	22,490,049
Jute Yarn for Weaving (kilos)	...	584,110	3,250,122
Share of India ...	...	29,177	...
Unspecified Manufactures („)	...	13,832	38,078
Share of India („)	...	...	...

U. S. A.

IMPORTS OF RAW JUTE AND JUTE GOODS

IMPORTS of raw jute and jute goods into U. S. A. according to a statement compiled by the Indian Government Trade Commissioner at New York are as follows :—

Product	Countries of origin	June 1940 (Tons)	May 1940 (Tons)	June 1939 (Tons)
Raw Jute ...	British India ...	2,535	1,700	6,346
Jute Butts ...	„ „ ...	276	677	...
Total for Raw jute and Jute Butts...	...	2,811	2,377	6,346
Burlap ...	British India ...	14,529	17,463	12,463
	United Kingdom	1,019	1,018	903
	Belgium ...	23	164	469
	Netherlands ...	7	24	53
	Others ...	...	...	485
	Total ...	15,578	18,669	14,373
Jute Bags and Sacks	British India ...	1,044	1,300	...
	Argentine ...	...	1	...
	Total ...	1,044	1,301	870

HESSIAN STOCK AND CONSUMPTION

Hessian stock and consumption figures of the United States of America excluding the Pacific Coast business, as reported by the Indian Jute Mills Association, are given below, the figures being in millions of yards:—

—	July		August		September	
	1940	1939	1940	1939	1940	1939
Stock	295	260	274	264	284	258
Consumption	54	47	55	54	60	91

NEW YORK PRICES

The *Daily Mill Stock Reporter* quotes the following prices of raw jute and jute goods prevalent in the New York Market, all the prices being nominal:—

—	Raw jute (Native Firsts) Cents per lb.	Burlap (Hessians) Cents per yd.		Old Bags Cents per bag	
		8 oz.×40s.	10 oz.×40s.	100 lb. sugars	140 lb. starch
29th July, 1940 ...	6·25	5·40	6·95	3·63	6·13
6th August, 1940 ...	5·60	5·25	6·80	3·63	6·13
14th „ 1940 ...	5·35	5·25	6·75	3·63	6·13
21st „ 1940 ...	5·25	5·10	6·65	3·63	6·13
28th „ 1940 ...	5·10	4·85	6·40	3·63	5·88

U. S. A. COTTON BAG CAMPAIGN

NATIONAL COTTON COUNCIL'S PROPAGANDA

According to the July *Jute Review* the National Cotton Council is renewing its newspaper campaign for increased use of cotton bags through household re-use. There is now being prepared for release a second series of Household Hints, entitled "Saving Money with Cotton Bags."

Each release contains, in addition to the title plates, a sketch showing an article made of cotton bags, a description of the article, and an offer of a free booklet available through either the Textile Bag Manufacturers Association or the Cotton Council.

Dundee Prices

According to the telegrams received by the *Statesman* on London Commodity Markets, the prices of raw jute in Dundee were as follows :—

——	23rd Sept. 1940.	30th Sept. 1940.	7th October 1940.	14th October 1940.	21st October 1940.
Firsts (£ per ton) ...	30	32	33	33	33
Lightnings (£ per ton) ...	28	30	31	31	30

China

IMPORTS OF JUTE, JUTE GOODS AND ALLIED FIBRES

According to the June issue of the *Monthly Returns of the Foreign Trade of China*, imports of jute—raw and manufactured—and flax, ramie and hemp fibres into China are as follows, figures being in quintals :—

Product	June	January—June	
	1940	1939	1940
Jute, Raw (quintals) ...	17,132	45,491	52,304
Share of British India ...	17,132	45,473	52,297
Hessian Cloth (quintals) ...	635	4,445	5,744
Share of British India ...	604	4,405	4,950
Gunny Bags, New (quintals) ...	20,341	9,083	41,717
Share of British India ...	15,691	9,012	35,457
Gunny Bags, Old (quintals) ...	5,558	45,020	35,831
Share of British India ...	2,564	20,145	12,368
Cordage, Twine and Rope ...	3,861	9,321	13,056
Share of British India ...	627	2,293	3,185
Flax, Ramie and Hemp, Raw ...	1,311	7,442	5,782

TRADE BETWEEN TURKEY AND INDIA

Hopes of increased trade betwen India and Turkey were expressed by the Indian Trade Commissioner in Alexandria, who is returning to Egypt after a six weeks visit to Turkey where he was in charge of the Indian section of the British Pavilion at the Smyrna Fair, states a *Reuter* message from London, dated October 11.

He said: "The goods Turkey particularly needs from India are jute, iron and steel products and hides and skins.

"Two main factors leading to hopes of extended trade are—first, the terms of the new Anglo-Turkish trade agreement now being negotiated in Ankara ; secondly, development of the Basrah route. Under the new agreement it may be found possible to allot to British Empire countries a larger proportion of British currency made available in Turkey by British purchases. This would facilitate further purchases by Turkey from India than has hitherto been possible.

"If the negotiations now proceeding for the reduction of freight rates on the Basrah route are successful, further impetus will be given to our trade."

SUBSTITUTE GOODS IN INDIA

In their effort to meet war needs, Indian industries have discovered a number of interesting substitute products, reports an *Associated Press* message from Simla.

Investigation of the possibility of using sisal substitutes for cordage and rope manufactured from Manila hemp have been initiated with a view to provide against a possible restriction or cessation of imports of Manila hemp.

To meet the position created by the acute world shortage of flax, 70 per cent. of which normally comes from Russia, India has supplied to the United Kingdom alone in addition to supplies to the Indian defence services, some five million yards of cotton canvas, and over three million yards of cotton jute union fabric. The latter is an entirely new type of fabric which India can claim to have evolved and developed at the instance of the Defence Department with the Assistance of the Supply Department.

NEW FIBRE FOR SACKS

Peru may manufacture bags and cordage from a new fibre plant which is a variety of hibiscus known in that country as *canamo de la* in India, states the July issue of the *Jute Review.* According to the Inspector-General of Experimentation of the Peruvian Department of Agriculture, successful experiments in the cultivation of this plant have been made in the Department of Piura in the northern part of the country.

UTILIZATION OF FIBRE BY-PRODUCTS

The possibility of turning by-products of vegetable fibres to account, to which increasing attention is now being given, is far from a new idea, says the *Industrial Fibres Review* of July. In 1866 a patent (No. 1058 of that year) was taken out by one Thomas Gray, a bleacher of Wandsworth, covering the use for soap making and other purposes of the mucilaginous or gelatinous substance obtainable from fibres such as flax, hemp, jute, nettles, china grass, sorghum, *phormium tenax*, esparto, and other fibre-yielding plants when boiled with alkali. The patentee claimed to have discovered that "when this mucilaginous matter has been properly prepared and cleansed from extraneous matter, it may, with advantage, be mixed with alkali, grease and other analogous ingredients and converted into soap." The proportions are given as from 10 to 25 per cent of oil or grease to from 75 to 90 per cent of mucilage.

TREATMENT OF JUTE FIBRES

A NEW DEVELOPMENT

It is reported from Belfast that a new process for treating jute fibre, giving it extra tensile strength and a finish, when spun or woven, akin to linen, is being developed there under the guidance of its inventor, Franklin E. Smith, reports the July issue of the *Cord Age.* It is said that jute so treated can be spun easily on regular flax spinning machinery, that spinning has already started in an Ulster mill, and that if the inventor's claims are substantiated the development will mean many new uses of jute.

Experimental use of the treated fibre for manufacturing fire hose is reported to be under way. Although no finished articles are yet on the market, a dispatch to the *Daily News Record* says it is difficult to distinguish between glass cloths, canvases, even bed sheets made with the treated jute and the same products woven from flax.

"The fact that the development is being tried out in Northern Ireland," says the report, "is symptomatic of the influx into the Ulster linen industry of quantities of fibre other than flax. It is certain that subsequent government contracts on merchandise formerly required to be all linen will contain important proportions of hemp to reserve flax for essentials and export orders."

(Continued from Page 469)

However, it seems apparent that military operations have made inroads on the staffs of the various plantations, but here again the news is too meagre to be really informative.

JAVA SISAL

This market has been a rather dull affair, and the buyers seem to show the same degree of indifference as has been noted in connection with the Manila hemp market. This is somewhat remarkable in view of the apparent desirability of having as large a supply afloat as possible to meet the potential demand which seems to be indicated by the improvement which has taken place in general business in this country.

Rs. 4,00,000 Scheme for Growing Flax

GERMINATION TESTS SUCCESSFUL

A NEW FIELD OF DEVELOPMENT

GERMINATION tests on recent arrivals of flax seed are now satisfactorily completed and the Directors of Agriculture, Bengal and Behar, have been asked by the Government of India to proceed with the scheme for which a sum of about Rs. 4,00,000 has been allotted to cover capital expenditure on machinery, expenses in growing and extracting the fibre and payment to cultivators in a form designed to discount the risks attendant on the growing of a new and unfamiliar crop, states a Simla message, dated September 27.

The flax plant belongs to the same species as the linseed which is grown extensively in India. Some difficulty was experienced in obtaining seed for which there was a keen demand in the United Kingdom and Ulster; it was eventually obtained from Holland just prior to the German invasion of that country.

The question of flax spinning is already under consideration by the Indian Central Jute Committee.

Seventy per cent. of the world's supply of flax comes from Russia. Small quantities are also produced in the low countries the United Kingdom and Ulster. There are many heavy demands for flax fabrics in war time particularly for the Admiralty, Defence, A.R P. and other services.

As supplies are severely restricted the experiment, if a success, will not only enable India progressively to augment war supplies but a new field of development will have been opened up for Indian Agriculture and Industry.

Flax Research

AUSTRALIAN INVESTIGATIONS-CHEMICAL RETTING METHODS

In the report of the Council for Scientific and Industrial Research of the Commonwealth of Australia covering the year 1938-39, it is stated that vegetable fibre investigations are in the initial stages and are mainly concerned at present with flax. Strains of high yielding flax developing good fibe are being sought and tested. Fifteen strains were being grown at the time of reporting, and a study is in progress to determine the effects of fertilizer components on yield and fibre quality. Another aim of these investigations is to study other fibre plants, particularly those already growing in Australia or which may readily be produced there and may be used as substitutes for flax under certain conditions.

The work in the Flax Investigations Section has developed very satisfactorily, and considerable experience has been gained in retting by the Duplex and Courtrai systems. This has rendered possible advice to commercial plant in the actual detailed control of its retting. It has been shown that Australian-grown flax straw can produce good quality fibre, and it is understood that this year the area under flax in Victoria is to be increased from 1,000 to 2,000 acres. (Later information indicates that the area to be sown with fibre flax in Victoria and Northern Tasmania during the coming season may be expanded to 8,000 or 10,000 acres). In order to facilitate the work a small scutching machine has been built. Previously it has been necessary to take the retted flax to the factory at Colac for this treatment.

It has been part of the work of the Section to endeavour to develop a chemical method of retting. This, if successful, would lead to a great saving in time of retting, and further, would give much more uniform results as the whole process could be standardised and controlled. Existing methods depend upon a partial breakdown of the straw by bacterial action, and this from its nature is incapable of close control and must give variable products.

A PROMISING PROCESS

Methods which produce flax of high quality in six hours have been checked by independent evaluation by experts, and it has proved to be higher in value than that produced by tank retting. Larger scale tests are essential before details of this process are released ; these tests are now in progress. It is felt that a definite step has been taken towards placing this very old industry, which has for centuries been conducted on purely empirical lines, on a definite scientific basis.

Behind any scientific process must be as complete an understanding as possible of each step. To provide this knowledge, chemical studies of retting are being carried out. In the first place, studies have been made of the chemical changes occurring during various stages of a tank ret. It is hoped by these studies to find what constituents of the straw are being attacked and in what order. Similar studies on chemically retted straw are projected for the coming year. Problems of the drying of retted straw, the treatment of effluents from factories, and of methods of indicating the end of a ret, are also being studied.

In the Forest Products Division at South Melbourne, a new laboratory building has been completed and equipped for experimental work on pulp and paper, the necessary funds having been provided by pulp and paper manufacturers in Australia. The first objective of the work is to formulate standard methods of test for pulp and paper.

KENYA FLAX

BRITISH GOVT. PROPOSAL TO TAKE OVER OUTPUT

It has been announced by the Kenya Flax Board that the British Government propose to take over all the Colony's flax at a fixed price according to grade, states the July issue of the *Industrial Fibres Review*. The price basis is expected to be about £ 125 a ton for third grade, f.o.b. Mombasa. Pointing out that prices are not likely to exceed this figure, the Board has warned growers not to expect much higher values. The industry is anxious that the guaranteed price should continue for a year after the end of the war, and it is proposed that arrangements should include provision for a rise commensurate with any war-time inflation. It is proposed to impose a cess of 20s. a ton on exports. In this connection, there was an interesting editorial article in the April number of *Dalgety's Review* (issued at Nairobi). Dealing with a recent vote by Kenya flax growers, who by a comparatively small majority (possibly not representing a majority of the acreage of flax grown) favoured the appointment of a sole agent for the handling of flax in Kenya, the article suggested that "the addition of yet another commodity to those removed from free commercial competition may have repercussions which the agricultural community will regret in the long run."

Examining the arguments put forward in favour of the appointment of a sole agent this commentator expresses the view that the small saving shown on paper may well prove to be fictitious, as lack of the spur of competition may well cost the growers much more. It is mentioned that some sisal and coffee growers believe that there would be considerable advantage in marketing through a sole selling agent, were it not too late to achieve this aim because of the vested interests that have been created through finance given over a period of years. In the case of coffee "it would appear to be a reasonable assumption that, if during the past decade a monopolistic selling agency had been in existence, no local market could have been created and the return to growers would probably have averaged something like £10 per ton less than it is to-day. It is clear that buyers would not have come and established themselves here if the whole of the selling of coffee was directed through one channel of disposal by law." As regards the sisal industry, "it is estimated that the amount advanced in one form or another by merchant bankers in East Africa is not less than £1,000,000 at any one time, and possibly considerably more. It is, therefore, safe to say that but for the assistance of the merchant bankers, the industry could not possibly have existed in its present form and East Africa would have been so much the poorer."

GRADING AND BALING RULES

Rules for the grading and baling of flax grown in Kenya, issued under the provisions of the Agricultural Produce & Export Ordinance, have been issued as a special supplement to the *Kenya Official Gazette.*

A schedule is included of markings for flax to be exported. For dew retted flax—WARP—the markings are D.P. 1 to D.P. 5, for the five grades, and D.P.0, for under grade. For water retted flax the markings are W.P.1 to W.P. 5 as well as W.P.0. For dew retted and water retted flax—WEFT—the respective markings for the five grades and under grade are D.T. 1 to D.T. 5 and D.T. 0, and W.T. 1 to W.T. 5, and W.T. 0.

For dew retted tow the markings are D. 1 to D. 3 for the three grades and D. 0 for under grade ; for water retted tow the respective markings are W. 1 to W. 3 and W. 0 ; the letter "K" must precede all grade marks.

District brands to be put on the bales of flax or tow for export are :—GIL—Gilgil ; NAK—Nakuru ; NJO—Njoro ; LON—Londiani ; LUM—Lumbwa ; KER—Kericho ; UG—Uasin Gishu ; TN—Trans Nzoia ; KIP—Turbo/Kipkarren ; OJ—Ol—Joro Orok and OKL—Ol Kalou.

An example of the branding of the two ends of a bale of flax or tow is given—the hypothetical sample being : Private Brand ; NY : District Brand : TN (Trans Nzoia) ; Grade K.D.P. 2 (in red—No. 2 grade, dew retted flax, warp) ; Destination : London.

These markings indicate that five grades and one "under grade" in the two classes of dew and water-retted flax, warp and weft, respectively, and three grades and an under grade in tow, both classes, are recognised.

The flax fibre is to be made up in bundles and delivered in a manner suitable for inspection at the place of baling. The conditions are :—

(*a*) bundles to be approximately 14lb. weight ;

(*b*) fibre in a bundle to be uniform and unmixed ;

(*c*) bundles to be tied tightly with three bands of same quality fibre as that composing the bundle ;

(*d*) all bundles to be weighed at the grading centre prior to baling and the charges to be calculated on these weights. They are to be paid after baling, but before removal of the bales from the baling centre.

These baling charges have not yet been decided upon, but the scutching charges are at present fixed at £12 a ton for flax and £9 a ton for tow.

INSPECTION OF BALES

After inspection, all flax is to be assigned to its grade and suitably marked. Bales must not exceed 3 cwt. compressed to a density of 25lb. per cu. ft. Bales will contain a uniform grade of fibre or tow and will be covered entirely with a clean, suitable material and bound with galvanised wire not less than 10 gauge. Not more than one grade of fibre or tow is to be included in any bale and inspectors will have power to open bales for examination purposes, re-baling charges being borne by the owner of the flax.

Official Grading Certificates, of which the original copy will go to the owner of the flax, will be issued after the bales have been branded and no flax may be exported without this grading certificate.

The rules regarding the presentation of certificates conform to recognised shipping practices.

POSITION OF SISAL

SEARCH FOR NEW OUTLETS

In the case of sisal the disappearance of the French market means that some 30,000 tons a year of East African sisal, which the French Government had arranged to purchase, will have to find another outlet, and the French Colonial output of about 4,000 tons may also have to be provided for, if the French Empire in Africa is to continue the struggle with financial aid from Great Britain, comments the *Industrial Fibres Review* of July.

The Sisal Growers' Association is in consultation with the British Government and is also engaged in discussions relating to the Netherlands East Indies output—some understanding between East African and Netherlands East Indian sisal growers has obviously been rendered more desirable than ever by the latest turn of events. In spite of the difficulty of establishing contact with those in control in Java it is hoped that some way will be found of bringing about a working arrangement for marketing.

As regards 10,000 tons of sisal bought on account of the French Government of which shipment from East African ports had to be temporarily suspended, it is understood that arrangements have already been made for this to be diverted to U. K. ports and a large proportion has already been ordered forward on instructions from the Hemp Controller. As to future demand, there are good reasons for expecting that a considerable part of the sisal that has hitherto been absorbed by European countries will now go to North America. The binder twine imported from Holland, Belgium and other Continental countries, by the United States and Canada and by South American countries, will now presumably have to be made in America, and this should appreciably increase the intake of East African sisal by the U. S. A. and Canada. The search for new outlets for sisal in this country is also going ahead. Possibilities of this kind include the use of sisal tow instead of manila in the manufacture of the finer kinds of paper.

RAMIE AS FLAX SUBSTITUTE

EXPERIMENTS IN THE PHILIPPINES

RAMIE fibre is attracting much attention as a flax substitute, states the July *Jute Review*. In addition to the various investigations into the use of this fibre, results of trials carried out in the Philippines will be of interest. Ramie was heated under 15 lb. pressure for 1½ hours with a solution composed of 2% soap and 0·2% palm oil, then bleached with 0·5% NaOCl solution. The white fibrous material obtained was treated under 10 lb. pressure for 1½ hours with 1% solution of $Na_2S.9\ H_2O$ then bleached again with

(Continued at bottom of Page 493)

Fibre Production and Trade Items

Staple Fibre in Germany

PRESS reports, according to the American Consulate at Leipzig, state that the production of staple fibre in Germany during 1939 approximated 200,000 metric tons ; it is expected to be substantially higher in 1940. The output of rayon yarn in 1940 is expected to approach 100,000 metric tons, compared with 67,000 in 1938. Leading German manufacturers of staple fibre (known as "cell-wool" in Germany) had attractive displays at the Leipzig Spring Fair. Special emphasis was given to new types of staple fibre which are water resistant and also fibre intended as substitutes for wool ; one type said to be especially suited to the requirements of the carpet industry was exhibited. A staple fibre made of inorganic materials, exhibited by the German Dye Trust, was said to be suitable for the manufacture of fishing nets and cordage, and also textiles for use in the chemical trades. Production of staple fibre in 1940 is expected to reach 300,000 metric tons (661,000,000 lb.) and the output of rayon yarn to approximate 100,000 metric tons (220,000,000 lb), according to an announcement of the Reich Commissioner for Textiles. The steady increase in production is attributed to the development of continuous processes, the constant modernisation of apparatus and equipment, and a shift to readily available raw materials. It is stated that pulp from beechwood will be extensively used for staple fibre in 1940. It was indicated that a synthetic fibre to be used as a substitute for sisal in binder twine has been developed. Other raw materials which have been substituted for wood pulp include straw, Italian reed, and potato plants, the last two mostly on an experimental basis. Test plantings of Italian reed were made last year and several hundred hectares (hectare —2·471 acres) are to be planted with reed this year ; it is claimed that the cellulose yield per acre is comparatively high.

Cultivation of Ramie in Germany and Cuba

The office of the U. S. Commercial Attache, Berlin, reports that experiments in the growing of ramie have been made during the past few years in Germany, mainly by an organisation with headquarters in Emmendingen (Baden) which has supplied seedlings for tests on poor soil near Berlin. The Results so far appear to have been indecisive. The American Consulate General at Havana reports that a number of experimental fields for the cultivation of ramie are to be established in Cuba, according to an announcement of the Division of Fibres of the Cuban Experimental Station at Santiago de las Vegas, acting under instructions of the Secretary of Agriculture of Cuba. Other fibrous plants also are to be studied, and it has been announced that the experimental station will soon begin distributing seeds of the plant known as *Malva Urena*, the fibre of which, it is hoped, may provide a substitute for flax. Experiments are also to be made with another fibre producing plant called *Mar Pacifico* (*Hibiscus Rosa Sinensis*).

Germany's Fibre Requirements

The Hungarian Institute for Economic Research recently issued some statistics, based on average for the years 1935 to 1937, to show how far the exports of Russia and the Balkans can cover Germany's import requirements in certain foodstuffs and important raw materials. Germany's and Austria's imports of flax, hemp and jute in these three years averaged 252,300 metric tons, valued at 99,700,000 Rm., of which 8,800 tons, or 3·5 per cent. came from Russia and 19,000 tons, or 7·5 per cent. from the Balkans, Hungary, Czechoslovakia and Poland. Total exports of these products from Russia amounted to 28,400 tons, and from the other group 74,000 tons, making a total of 102,400 tons, or only 40·6 per cent. of Germany's total imports.

Moriche Fibre in Venezuela

The Moriche palm (*Mauritia flexuosa*) is found in abundance in the States of Apure, Monagas, Guarico, Anzoategui, and Bolivar. The wood is used locally in rustic construction, and fibre of the leaves is utilised in the manufacture of rugs and other textile products, baskets, and similar articles. In combination with cotton, the fibre is used in the manufacture of hammocks.

Cotton and Synthetic Fibres in Japan

The comparisons of Japan's annual imports of cotton in 1938 and 1939 with the annual imports during 1935 and 1936 (the two years preceding the conflict in China), shows a drop in total imports of 1,108,000 bales (from 3,796,000 to 2,688,000), imports of American cotton having declined by 771,000 bales (from 1,618,000 to 847,000). Receipts of cotton from India declined by 754,000 bales (from 1,652,000 to 898,000). On the other hand, receipts from China showed an increase of 226,000 bales (from 122,000 to 348,000) and imports of Brazilian cotton increased by 190,000 bales (from 104,000 to 294,000). Imports of Egyptian and other cotton remained about the same as in 1935 and 1936. It is to be observed from these figures that the decline in American cotton was offset to the extent of about 190,000 bales by imports of Brazilian, while the decline in Indian cotton was offset by an increase in receipts from China. To a large extent, the decline in the use of cotton was offset by a greater utilisation of synthetic fibres ; the production of rayon and staple fibre (rayon cut to cotton length and spun on the cotton system) has shown an extraordinary advance during recent years ; consumption of these fibres by the cotton manufacturing industry in Japan increased from an equivalent of about 480,000 bales annually during 1935 and 1936 to 950,000 bales a year during 1938 and 1939, mainly owing to the virtual prohibition on the use of cotton for goods intended for civilian consumption in Japan. Yet cotton is still the most important item in the Japanese imports ; the value of cotton yarn and cloth represented about 13 per cent. of the value of Japan's total exports in 1939 and 16 per cent. in 1938. The value of cotton yarn and cotton cloth exports exceeded the total value of imported raw cotton.

Manufacturing Difficulties in Italy

According to a report from the American Consulate-General in Rome, it is rumoured that "lanital" production has decreased to negligible proportions. Some concern has also been expressed that the production of rayon may be retarded by the shortages of fuel and raw materials.

Kapok available for export in 1939-40.

According to the U. S. Consulate at Surabaya, during the 1939-40 kapok year, about 14,500 metric tons from the current crop will be available for export, or a total of 24,000 tons, including the carry-over; by the end of December, 1939, about 10,600 tons had been shipped abroad. The Kapok Fund, a corporation organised by the Govenment for the purpose of withholding excess stocks from the market, had 15,277 metric tons on hand at December 31, 1939, including 7,618 from the 1937-38 harvest and 7,659 from the 1938-39 crop. The estimated book value of the kapok under control of the Fund is 27 florins per 100 kg. At the end of 1938, the Fund had control of a stock of 11,140 metric tons. Some kapok exporters in Surabaya fear the new frieght rates may result in placing two kinds of kapok on sale in the United States, that is, kapok which has been pressed as in the past and kapok which has been subjected to abnormal pressure, which the trade claims will be necessary to attain a minimum weight of 1 metric ton per 2.83 cu. metres.

Exports of Coir from Ceylon

Exports of coir fibre from Ceylon in 1939 amounted to 888,490 cwt., compared with 731,844 cwt. in 1938. The American Consulate at Colombo reports that exports of mattress fibre (presumably kapok) from Ceylon to the United States decreased to 2,889,600 lb. in 1939 compared with 3,343,312 lb. in 1938.

Madagascar Fibres

Madagascar does not figure prominently amongst fibre-producing countries, but the exports of raffia and sisal from that French colony are by no means negligible. In 1937 shipments of raffia amounted to 8,474 tons and of sisal to 2,636 tons. The 1938 figures were rather lower—6,933 and 2,467 tons respectively. Of paka *(paco paco)* fibre 39 tons were exported in 1938 in addition to 1,480 tons of paka bags and textiles.

Fibre Production in Bulgaria

Addressing the Sobranye on the budget appropriation for the Ministry of Agriculture, the minister, Mr. Bagrianoff, announced the Government's intention of taking special measures for the encouragement of production of flax, cotton and hemp. In 1939, 1,460 hectares were sown with flax, 1,100 with hemp and 7,000 with cotton.

More flax from Quebec

The Quebec Provincial Government, which announced in the Speech from the Throne at the opening of the present legislative session its intention to develop the flax industry, plans to increase from 6,000 to 12,000 acres the area under cultivation. Crops will be planted in the countries of Chateauguay, St. Maurice and Maskinonge, in addition to Kamouraska, Vaudreuil and Soulanges, where crops were grown in 1939. Each of the six countries is expected to have a co-operative society, formed by farmers, who will subscribe between $ 30,000 and $ 35,000 to build up and equip the necessary plants where the flax will be converted for industrial uses.

Shortage of Sacks in Yugoslavia

A severe shortage of jute sacks has occurred in Yugoslavia, and the Ministry of Finance has, consequently, issued a decree sanctioning the use of paper sacks for the packing of crystal sugar. Special regulations have been issued as to the quality of the sacks used.

Flax and Hemp in U. S. S. R.

Reports given in the Monthly Crop Report for May, of the International Institute of Agriculture, Rome (possibly the last we shall receive for some time) indicate that sowings of both flax and hemp in the U. S. S. R. were much behind schedule on May 1. In the case of flax the percentage of the plan actually sown was only half that recorded at the corresponding date in 1939, and the position in regard to hemp was not much better.

(*The foregoing paragraphs are taken from the "Industrial Fibres Review" of July.*)

(*Continued from page 488*)

0. 1% NaOCl solution. The degummed fibre obtained in 80% yield, was soft, lustrous, strong, contained no ligning and had greater dying capacity than cotton.

An additional patent to an Italian invention for degumming ramie has recently been taken out in Great Britain. It substitutes the mechanical means for the emulsification for the gummy substance by an abundant jet of water in a flattened shape (blade-shape) at a pressure of 7 to 8 atmosphere. (Patent No. 521,528).

EXPORT GROUP OF JUTE MACHINERY MANUFACTURERS

An export sub-group for jute, flax and hemp machinery has been formed. Mr. Lavens Mackie is Chairman, and Mr. E. H. Howcroft, Secretary. The address is : 509, Royal Exchange Buildings, Manchester.

Monthly Notes on Progress of Schemes

THE following is a short review to indicate the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

The office of the Committee remained closed on account of Puja holidays from the 5th to 16th October. But prior to the closing, all necessary action had been taken on the suggestions and recommendations made at the last meeting of the Main Committee held in September, and arrangements for the publication of the Annual Report of the Committee through the Principal Information Officer, Government of India had also been completed.

The Secretary utilized the opportunity offered by a private visit to Delhi, during the last Puja holidays, to discuss with the President a few matters relating to the administration of the Committee, and with the Education, Health and Lands Department some important questions bearing on the Committee's budget for the year 1941-42, the proposal for the extension of the Technological Research Laboratories and sundry other subjects.

The special Sub-Committee appointed to suggest ways and means for the stabilisation of jute prices met on the 23rd September, 1940. It worked out the details of the proposal for the purchase of the surplus crop of jute.

A meeting of the Special Marketing Sub-Committee appointed to consider the future programme of work of the Marketing Section was held on the 24th September. The recommendations of the Sub-Committee will be placed before the next meeting of the Committee.

The Hon'ble Dewan Bahadur Sir A. Ramaswami Mudaliar, Member-in-charge of Commerce and Labour of the Viceroy's Executive Council, paid an informal visit to the office of the Indian Central Jute Committee on the 24th September, 1940.

Mr. V. N. Kohli has been appointed to officiate as Superintendent *vice* Mr. F. N. Bhandary who has proceeded on leave.

Marketing and Transport

The outstanding feature of the section's work was the publication of the First Report on the Marketing of Jute which was released for sale to the public on the 3rd September, 1940.

At the Committee's six-monthly meeting held from 4th to 6th September the activities of the section since the last meeting were reviewed, also the future scope of work was discussed particularly with reference to the development of improved marketing methods as recommended in the First Marketing Report.

A Special Sub-Committee was appointed to consider and recommend the lines of development that should be undertaken by the staff after completing the Second Marketing Report, the writing of which is now in hand. A note in which seven items of work including both practical development and enquiries designed to lead to better control and regulation of the industry was formulated by the Agricultural Marketing Adviser in consultation with the Senior Marketing Officer. This note was discussed by the Special Sub-Committee on the 24th September and a further programme on lines suggested therein was provisionally settled.

The synopsis of the Second Marketing Report was revised in final form. Information on several important items for this report is not coming forward, particularly with reference to the uses to which jute fabrics are put, the quantitative requirements and possibility of increasing demand in Indian Provinces and States. The Senior Marketing Officer has issued three questionnaires to all provincial and State marketing staff during the last two years covering all points connected with the use of raw and manufactured jute but has so far received only two replies of any practical value.

The writing of chapters on the Development of the Jute Industry and Distribution of Jute Goods is well advanced and considerable statistical data have been collected for those on prices and demand.

Agricultural Research

Harvesting, steeping, retting, stripping and drying of fibre were in progress.

Records of plant-growth, *i.e.*, height and diameter of stem were made on important varieties and selections.

To study the effect of spacing on the thickness of the stem and branching necessary measurements have been taken.

Hybridization and selection work is progressing according to the programme.

Detailed chemical examination of twenty samples of retting waters is in progress.

Black oval spots appeared on the jute stems when they neared maturity. This appears to be an unrecorded disease.

Technological Research

In the standard spin to "10 lb" Hessian Weft employed in comparing fibre-quality a nominal twist of 3·43 turns per unit is employed (twist constant corresponding to 10·3 lbs. yarn = 11·0). The mean result of twist tests on 150 samples of yarn spun in the laboratories (representing 15,000 primary observations) was found to be 3·47 ± 0·014 turns per inch. The agreement is excellent and seems to show that there is no appreciable bias in the results. Any desired degree of accuracy can be obtained by making a sufficient number of observations on a sample. At present 100 observations are made, giving a standard error of 0·04 to 0·09, with an average of about 0·065.

All the evidence so far available supports the view that from yarn tests on fibre spun to 10 lbs. Hessian Weft by the standard technique it will be possible to predict satisfactorily the quality of the yarn that would be obtained if the same fibre were spun to say, 8 lb. warp or 5 lb. warp. The indications are that if a yarn with a high quality ratio (say 110) and a low coefficient of variation (say 20%) is obtained when the fibre is spun to 10 lb. weft it will give a good yarn if spun to 5 lb. warp, but if the quality ratio of the

10 lb. yarn is rather low (say 80) and the C. V. high (say 28%) only a moderate 8 lb. yarn will be obtained and a poor 5 lb. yarn, with many breaks in spinning. This is a very important matter and experiments are in progress to get further data. A number of further exploratory experiments have been made to test the possibility of obtaining evidence regarding spinning quality from the way the fibre packs together when subjected to pressure. One promising method is to mount a bundle of fibre strands of standard weight and length in a suitable apparatus and twist it so as to introduce a specified number of turns. There are good indications that a fairly close relation exists between yarn quality and the diameter of the bundle of strands thus twisted. This agrees with the known fact that yarns of low quality have a low "apparent density." Another method that is being tried out is to pack a sample of the fibre of definite weight and length into a metal cylinder (2½″ × 6′) open at both ends and to measure the distance which a tapered, graduated rod penetrates into the fibre in the cylinder (held vertically) when it is allowed to fall from a standard height. Good "packing" quality of the fibre associated with smoothness and freedom from knots, specks, etc., means that the rod penetrates further and there is reason to believe that a useful test of quality may be based on this. A test of this type would be suitable for use in mills or baling houses and combined with the ballistic test (for strength) would give much of the information required in assessing quality. The work in the chemistry departmet continues on the lines previously indicated.

Improvement of Jute Forecast

The data of the Jute Census Survey and Crop Estimating Survey is now being statistically analysed in the Statistical Laboratory, Calcutta. It is expected that the results of this analysis will be available by the end of October.

A full scale survey will be undertaken during 1941. It was decided to collect village, thana and district maps which would be required for the purpose before the Pujas. Accordingly 29 Investigators were appointed for the purpose and sent to different district headquarters to collect these maps. The work was completed by the end of September and about 93,000 mouza maps, 400 thana maps and 26 district maps were collected.

The Jute Census office was closed for the season on the 4th October and the outstanding work of that office was handed over to Secretary's office. This office is likely to be opened again for 1941 work in February next.

Statistics & Information

The influence of world trade on jute demand has been studied and the results obtained were indicated in last month's *Bulletin.* The influence of jute prices on the demand for jute is now under investigation and suitable materials for a correlation analysis are being prepared from primary data collected so far.

Reports have been recently received that the cotton interests of the U.S.A. are sponsoring a proposal for a tariff on jute and hessian on the alleged ground that exports of American manufactures to India have been seriously affected by the present international situation. In view of the seriousness of the matter it is being examined in every possible detail and a report will be prepared as soon as possible.

Daily U.S.A. prices of some important substitutes of jute have been compiled since April 1937, and monthly average prices have been worked out. Composite index numbers of prices of substitutes will be compiled from the monthly averages on the basis of weights derived from the U.S.A. Census of Production for 1937.

Publicity

Besides the usual work in connection with the production of the monthly *Bulletin* and the Price Dissemination Service and the preparation of a Press Summary of the Annual Report of the Committee, for 1939-40, there is nothing of any particular importance to record since the last issue of the *Bulletin.*

INDIAN CENTRAL JUTE COMMITTEE

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CONTENTS

Subject	Page
Indian Prices During October	499
Monthly Variation of Exports	501
Production and Stocks of Jute Goods (India) ...	502
Stabilisation of Jute Prices	503
Revision of Minimum Price of Jute	504
Moisture Regain of Jute	505
Meek-Gregory Mission to U. S. A.	507
United States of America	508
Review of Cordage Fibre Market	509
Jute Trade Conditions in Argentine	511
Jute Trade in United Kingdom	516
Jute Imports into Egypt	518
Centralised Australian Imports of Jute	519
A New Use of Jute	520
Woolenising Jute Fibre	521
Fibres of the Italian Empire	522
Packing Material in Germany	530
Artificial Wood Fibre	530
Proposed Bag Plant in Cuba	531
Hemp Market in Philippines	532
Maxican Sisal Industry	533
East African Sisal	534
British Trade with Balkans	536
Jute Freight and War Risk Rates	537
Industrial Fibres	538
Monthly Notes on Progress of Schemes	542
Conversion Table	*Inside Back cover.*

Indian Prices during October

LOOSE JUTE MARKET QUIET

THE general tone of the **loose jute** market throughout the month was quiet, little business being reported done either by mills or balers. Some interest was, however, shown in the Tossa crop at rates quoted below :—

District Tossa, Middles and Bottoms, at Rs. 8/- and 7/- respectively—October delivery.

European White, Middle and Bottom, at Rs. 9/- and 8/- respectively—early delivery.

The basic agreement rates remained unchanged.

JUTE FUTURES

The Calcutta jute futures market (East India Jute Association) which was closed for about three months opened on 1st October, the quotations being Rs. 33/14/- for December delivery.

Throughout the month there was slight fluctuation in prices as will be seen from the following quotations:—

1st October	Opening	Rs. 33/14/-
15th October (touched highest point for month)	,,	35/10/-
29th October (Lowest point)	,,	32/14/-

PUCCA BALES

There was greater activity in the market during the month than for some time past. The Daisee crop is now being marketed and featured with regular frequency in the month's trading. During the first part of the month Daisee 2/3, Oct./Nov. delivery, were done at Rs. 32/12/- but later similar business was reported at Rs. 31/- and with a steadiness in tone in sympathy with Futures, rates appreciated somewhat in the middle of the month. Business followed at Rs 34/- for Outport Firsts, December delivery, but with switching off of interest an earlier tone developed at the end of the month. Quotations were nominal with little enquiry.

Closing rates :—Daisee 2/3, Nov. delivery, Rs. 30/-
Outport Firsts 2/3, Nov. delivery, Rs. 31/-

HESSIANS

After several months of very mild business the hessian market enjoyed a period of brisk trading. A genuine overseas buying demand developed early in the month and a fairly large volume of business was reported, particularly from the Argentine Republic. The demand was primarily for 11 porter hessians and rates for that class of fabric appreciated steadily during the month.

The market opened as follows on the 1st October :—

	Ready	*Oct.*	*Nov.-Dec.*
9 porters	11/6/-	11/7/-	11/7/-
11 „	15/7/-	15/5/-	15/-

After a slight easing in rates during the first week shippers began taking an active interest and prices firmed up—on 14th October they were quoted:

	Ready	*Oct.*	*Nov./Dec.*
9 porters	11/11/-	11/11/-	11/12/-
11 „	15/12/-	15/12/-	15/8/-

The steadiness was maintained and mills keenly accepted business at the rates opening for near deliveries.

At the end of the month demand was moderately good and this compared with slight reserve of sellers had the effect of further stimulating rates.

On October 29 rates were :—

	Ready	*Nov.*	*Dec.*	*Jany./Mar.*
9 porters	11/10/-	11/10/-	11/10/-	11/6/-
11 „	16/3/-	16/3/-	15/14/-	15/6/-

HEAVY GOODS

The rise in hessian rates was reflected in the heavy goods market in which there was little general demand.

Cornsacks, B. Twills, Liverpools and Heavy Cees all featured in the sales lists for near deliveries at prices which gained strength as the month progressed.

Rates were as follows :—

	1st Oct.		*17th Oct.*	*29th Oct.*	
B. Twills	31/-	Oct./Nov.	31/14/-	31/14/-	Nov.
Liverpool Twills	35/-	„	36/6/-	36/4/-	„
Cornsacks	33/-	„	34/4/-	33/8/-	„
Heavy Cees	31/4/-	„	32/-	32/-	„

Monthly Variation of Exports

JUTE FROM INDIA

(Figures are in 1,000 tons)

MONTH	1940 or 1939-40	1939 or 1938-39	1938 or 1937-38
RAW JUTE			
June	16·2	34·0	34·7
Sept.-June	474·4	609·6	590·2
July-June	532·6	693·5	665·5
JUTE MANUFACTURES			
June	95·5	80·9	79·7
Sept.-June	986·0	781·9	817·5
July-June	1,166·7	953·1	999·9
RAW JUTE AND JUTE MANUFACTURES			
June	111·7	114·9	114·4
Sept.-June	1,460·4	1,391·5	1,407·7
July-June	1,699·3	1,646·6	1,665·4

The month of June recorded an all-round fall in jute exports. The figure for raw jute was abnormally low and was the lowest on record for many years past. Exports for the whole of the 1939-40 season was reduced by 23·2 per cent for raw jute and increased by 22·4 per cent for manufactured jute. The total export demand was only 3·2 per cent higher than that in the previous season.

Production and Stocks of Jute Goods

DECREMENT IN STOCK

MANUFACTURE of jute goods during October, 1940 by the mills reporting to the Indian Jute Mills Association are given below:—

Sacking Bags	(1,000s)	32,157	or	35,693 tons
Hessian Bags	(„)	28,753	„	6,563 „
Sacking Cloth	(1,000 yds.)	4,399	„	1,877 „
Hessian Cloth	(„)	95,925	„	25,597 „
Others				3,019 „
Total				72,749 „
Previous month's Total				65,112 „

The following are the **stocks* of jute cloths and bags** as reported to the Indian Jute Mills Association by its members :—

	End of October 1940	End of October 1939	End of September 1940	End of September 1939
Sackings (lacs of yds.)	1,782	1,152	2,034	1,513
(Tons)	76,477	48,357	86,906	64,350
Hessians (lacs of yds.)	2,349	3,072	2,548	2,949
(Tons)	58,244	74,893	62,799	70,861
Total (Tons)	134,721	123,250	149,705	135,211

*These figures include the returns of Gagalbhai in addition to those of members. The returns of Katihar, Bengal and Maheswari Devi have not been received and are excluded.

Out of the total October hessian stock 4,29,47,384 yds. represent sandbags and 5,93,12,484 yds. of 8 oz. cloth weighing 14,345 tons. The corresponding figures (sandbags) for September were 2,46,33,913 yds. and 7,18,65,173 yds. hessian cloth (8 oz.) weighing 16,053 tons.

5. OCT. 1943

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Stabilisation of Jute Prices

GOVERNMENT ATTEMPTS

THE Bengal Government is understood to be examining various details in connection with its schemes for stabilising jute prices, reports the *Commerce.* It is stated that the Government proposes to meet the end in one of two ways, namely, through the creation of a suitable machinery for the purchase of raw jute both in Calcutta and the mofussil through selected agents acting on behalf of the Government or, in the alternative, by the creation of circumstances through legislature or executive action which would create sufficient confidence in the commercial community, encouraging them to effect the purchase and storage on their own account, of surplus jute for future consumption.

The Indian Jute Mills Association Committee have recommended to members that the mills should be closed for the week ending 14th December, 1940.

Further reports go to show that the Government of Bengal is considering, in co-operation with the Jute Mills Association, a scheme for stimulating purchases of jute in the mofussil.

Revision of Minimum Price of Jute

NEW STANDARD OF GRADING

THE Indian Jute Mills Association Committee recently considered the question of a revision of the minimum prices for raw jute and have forwarded their proposal to the Government of Bengal, says the *Capital* of 7th November. According to reports it is proposed that the new minima should be as follows :—

	Middles	*Bottoms*	*Low Bottoms*
European packing (Jat and Districts) ...	Rs, 8/8	Rs. 6/12	Rs. 4/8
Indian Jat	„ 8/4	„ 6/8	„ 4/8
Indian District	„ 7/12	„ 6/-	„ 4/8

It will be observed that this proposal involves the recognition of a mark below the Bottom which is at present defined as "to contain all jute unsuitable for inclusion in Tops and Middles." It also eliminates the Top mark. Taken on the assortments available in the jute districts, at present it will result in an overhead reduction in the minimum price of approximately Rs. 2/- per maund.

A further list of the proposed minimum prices of pacca bales of raw jute, as published in the *Capital* of 14th November, is given below :—

Firsts	Rs. 40/-	per bale
Lightnings	„ 36/-	„
Hearts	„ 28/-	„
Rejections	„ 22/-	„
Outport Tossa Assortment ...	„ 37/-	„
Outport Tossa 4's	„ 31/-	„
Outport Daissee Assortment ...	„ 32/-	„
Outport Daissee 4's	„ 27/-	„

It has been proposed that the minimum rate for Daissee in drums should be Rs. 6/- per maund.

Moisture Regain of Jute

CHANGES DURING TRANSIT

In some parts of the jute growing areas the humidity of the air is apt to be high in August and September when the fibre is being prepared for sale. Samples from several stations in North Bengal, where the humidity is as high as anywhere, have therefore been examined at the Technological Research Laboratories of the Indian Central Jute Committee for moisture regain. The samples were forwarded by the District Agricultural Staff of the Indian Central Jute Committee, who were given instructions to send samples, representing fibre which growers had ready for sale, and it was to weigh exactly 5 seers and to be sewn up in cloth to avoid loss of fibre in transit. In the absence of suitable local arrangements, it was not possible to do more than emphasise on the agricultural staff the very great importance of packing exactly 5 seers of the fibre. If the original weighments were in defect, they would necessarily vitiate conclusions that could be legitimately drawn from the results of the experiment. This note should be read subject to this caveat.

The accompanying table shows the results obtained.

No.	ORIGIN.		Date when collected.	Weight when tested at T. R. Laboratories		Date of T. R. L. test.	Moisture Regain found when tested.	Moisture Regain calculated at 5 seers Original weight %.
				lb.	oz.			
1	Rangpur	(A) ...	30-9-40	10	1	4-10-40	16·7	19·3
2	Rangpur	(B) ...	30-9-40	10	7	4-10-40	13·8	12·1
3	Dinajpur	(A) ...	30-9-40	10	3	3-10-40	17·3	18·4
4	,,	(B) ...	30-9-40	10	4	3-10-40	16·9	17·3
5	Kurigram	(A) ...	30-9-40	9	11	3-10-40	20·7	28·1
6	,,	(B) ...	30-9-40	9	15	3-10-40	17·8	21·9
7	Domar	(A) ...	30-9-40	11	0	18-10-40	14·0	6·6
8	,,	(B) ...	30-9-40	10	13	18-10-40	13·3	7·8
9	Jalpaiguri	(A) ...	3-10-40	9	6	18-10-40	15·1	26·3
10	,,	(B) ...	3-10-40	10	3	18-10-40	13·8	14·9

For No. 9 (Jalpaiguri A) an original regain of 26·3% is indicated. But as the other sample from the same centre (No. 10) shows only 14·9% it may be concluded that No. 9 was unnecessarily moist.

Similarly the original regain of 28·1% indicated in the case of No. 5 is unnecessarily high, as shown by No. 6 from the same centre with a calculated regain of only 21·9%.

It is to be noted, too, that Kurigram, which has given such high results, is not far from Rangpur when the values are 19·3% and 12·1%.

The results Nos. 7 and 8 are suspiciously low, but we are informed that the tola equivalent of the seer weights used is 80 tolas so there should be no error in the calculated regain. In any case the actual regains found enable it to be concluded that the original regain was well below 20%.

A regain of 28%, the highest found, corresponds with a relative humidity in air of over 95% and even in North Bengal. In September it should not be difficult to find periods for drying in which the humidity is far below this, for example 85% which corresponds with a regain below 20%.

It is to be noted that it is a mistake to take in fibre after drying and to bundle it up in the morning or in the evening. The humidity of the air is lower at about midday and fibre should be taken in and parcelled up between noon and 3 P.M.

Meek-Gregory Mission to U. S. A.

OPTIMISTIC OUTLOOK

DR. T. E. Gregory, who went to the U. S. A. with Sir David Meek on a trade mission, has returned to Delhi and has submitted his report to the Government of India states the *Commerce* of 2nd November, 1940.

According to the Delhi Correspondent of the same paper there is room for greater optimism today about India's export trade possibilities in the U. S. A. and other South American countries than when Meek-Gregory mission left this country. This deputation's report is likely to have some important bearing on the proceedings of the Eastern Group Conference. As the report contains highly confidential information the Export Advisory Council might not be presented with its full text in a formal fashion, while, however; opportunities for information about and the examination of the same might be available to the council members. It would appear that even though the U. S. A. produces enormous quantities of raw material good opportunities for accelerated exports of commodities relating to wartime industries and other consumer goods seem to exist. The U. S. A., however, would open up increased avenues for Indian exports, provided Indian exporters conform to American tastes, such as standardisation and variety of goods and keep the contracts made with the U. S. importing houses.

The Meek-Gregory mission was not asked to study the questions of the U. S. A.'s exports to India and here also further opportunities exist. As regards machinery and plants for starting heavy industries in this country, this might be available, consistent of course, with the U. S. A.'s rearmament needs. There do not seem to be any impediments in the way of accelarated Indo-American trade.

Dr. Gregory and Sir David Meek on their way to the U. S. A. met representatives of the Hongkong Government and discussed the possibilities of increasing Indian trade with that colony. Sir David Meek has now gone to Canada to study the market conditions in that country and is expected to submit a separate report on that subject.

United States of America

JUTE TRADE NOTES

THE U. S. A. Jute Industry, states the *Jute Review* of August, is expecting to have a share in the large armament drive of the country. To judge from the bids and orders placed, considerable quantities are required, but still larger orders are expected in some circles.

HESSIAN STOCK AND CONSUMPTION

Hessian stock and consumption figures of the U. S. A. excluding the Pacific Coast business, as reported to the Indian Jute Mills Association, are given below, the figures being in millions of yds. :—

—	August		September		October	
	1940	1939	1940	1939	1940	1939
Stock	274	264	284	258	261	221
Consumption	55	54	60	91	71	73

NEW YORK PRICES

The *Daily Mill Stock Reporter* quotes the following prices of raw jute and jute goods prevalent in the New York Market, all prices being nominal :—

Date	Raw jute (Native Firsts) Cents per lb.	BURLAP (Hessians) Cents per yd.		OLD BAGS Cents per bag	
		8 oz. × 40s.	10oz. × 40s.	**100 lb. sugars**	**140 lb. starch**
5th September, 1940	5·00	5·15	6·65	3·50-3·75	6·00-6·25
12th „ 1940	4·75	5·20	6·70	3·50-3·75	6·00-6·25
19th „ 1940	4·75	5·40	6·90	3·50-3·75	6·00-6·25

BINDER TWINE INDUSTRY

According to the *Cord Age* 180,000,000 lbs. of binder twine is being used to bring in American food stuffs during the current year. Manila hemp, sisal and henequen is used for making this article. The American binder twine makers have informed grain growers that they have sufficient sisal on hand to cover twine requirements during the coming harvest season. They have also assured the grain growers that their mills are equipped to supply 50,000,000 to 60,000,000 lbs. of twine that have, in recent years, come from abroad. The imports, in tons, of manila, sisal and istle into the U. S. A. as published by the U. S. Department of Commerce are given below :—

—	June		January—June	
	1940	1939	1940	1939
Manila Hemp	5,922	3,570	27,724	17,917
Sisal and Henequen ...	12,438	10,558	75,509	50,330
Istle or Tampico ...	298	875	4,658	3,785

REVIEW OF CORDAGE FIBRE MARKETS

The following is a review of the hard fibre markets prepared by Hanson and Orth for the *Cord Age* Magazine of New York and published in the August issue of the Journal :—

MANILA HEMP

Buying during the month of July continued to be on a hand-to-mouth basis so far as the commercial manufacturers are concerned. The largest taker of hemp during the month was the United States Navy, but for the first time for a considerable period no invitations to tender hemp to them are out at the moment.

The shipments of hemp from the Philippines to the various parts of the world continue on an important scale, with the result that the stocks in the Philippines as of July 26th were only 152,000 bales, which is less than they have been in over three years ; the Davao stocks are only slightly in excess of one-third of the total stocks.

A rumour was current recently to the effect that the National Abaca Corporation had begun operations in the Philippines, but no particulars regarding the nature or volume of these operations have come to hand.

MEXICAN SISAL

The wheat crop reports on the whole are not quite as good as they were a month ago, but the indications for oats and barley continue excellent, which two grains combined indicate a yield of nearly double that of the wheat crop.

It still appears that as much or more binder twine will be used during 1940 than was used for the 1939 crop, and as a materially increased proportion of the binder twine was made in the United States, it can be assumed that manufacturers will not go into the new season with any surplus supplies of either fibre or binder twine.

AFRICAN SISAL

So far as Tanganyika and Kenya are concerned, there is no news of any kind. The sellers of Portuguese, however, are somewhat more pressing.

JAVA SISAL

The demand during the month was moderate. The possibility of interference with shipments of Sisal from the Dutch East Indies seems to have no effect on the buyers. Should this interference occur, it is impossible to see where supplies of high grade fibre for the manufacture of ply-goods will come from.

Jute Trade Conditions In Argentine

FALL IN PRICES

THE following is the full text of Mr. W. J. Jackman's Monthly Report No. 33 on conditions affecting the Jute trade in the Argentine Republic :—

General Conditions

After a full year of war conditions the Republic, like most other countries, is feeling to an increasing extent, the disruption of trade. The most important buyers of its surpluses of agricultural and pastoral products are in Europe, and with Great Britain practically the only exception, European markets are closed to overseas trade. Great Britain is still buying from the Argentine what she requires, and seems to have no difficulty in furnishing boats for its transportation. Fortunately, wheat and linseed stocks are now small, with very little surplus now remaining for export. But there is a huge crop of maize available, and what should be a steady stream of exports is at present a mere trickle, and meat shipments are disappointingly small.

In some respects the country has been fortunate, as for instance in the disposal of her linseed. The average price realised for the 1940 crop has been about $15. pesos per quintal. Now, with only a small surplus remaining, the value has dropped to little over $10. pesos. The outlook for the price of the new crop is not very promising. Nor is the outlook for wheat prices very promising for the next crop, with the heavy stocks on hand in the northern part of this Continent.

Ocean freight rates continue to have a downward tendency, due to there now being more tonnage available for those countries to which exports may still be sent, and this is proving helpful in the case of certain minor products of the Republic.

Foreign trade in July left this country with an import balance of nearly 37 million pesos; but for the seven months of the current year there is still an export surplus of over $60 million pesos, which compares with 201¾ millions for the same period of last year.

In foreign exchange there have been no changes during the last month. The official buying rate for the pound sterling remains $13·50 pesos, with the selling rates $15 and $17 for the primary and secondary classifications respectively. For the dollar the official buying rate is $335·82 pesos per 100 dollars. In the open market there was a good deal of fluctuation during the month. At the close of July the quotation was $458; in mid-August $436·50; and at the end of the month $441 pesos per 100 dollars.

Crop News

A complete change in weather conditions occurred in August. Dry and frosty weather took the place of the rains and humidity with mild temperatures of the preceding three months, and brought more optimistic prospects for the field crops.

The *wheat* area will probably fall short of that intended by 5% to 10%, and much of the crop has been planted later than is customary or considered prudent, and it will consequently be more liable to suffer weather damage as the season advances. The *Linseed* area also may be smaller than had been intended, due to rains again stopping work in important districts before the planting had been completed. A greater *Barly* crop than last year has been seeded, with the other small grains probably about as usual. The crop of *Maize* is moving out very slowly, for lack of demand from the few foreign markets now available. There is still on hand an exportable surplus of over 7 million tons, and the prospects of marketing more than a relatively small part of this quantity are regarded very pessimistically. The Government has announced its intention to purchase the corn from the growers who wish to sell, on the basis of $4·75 pesos per 100 kilos, shelled and laid down in the ports. The current market value is about $ 4·10. Maize does not store well under Argentine conditions, and what will be done with the unsaleable balance is a problem which has not yet been solved.

The final official estimate of the *Cotton* crop confirms the former forecast of 74,200 tons.

The second estimate of the *Potato* crop made by the Ministry of Agriculture is 1,071,000 tons, a reduction of 90,000 tons or 7·8% from the first calculation. Of the total, about 100,000 tons is classed as not marketable.

The Jute Trade

There is little change to report since my last communication. The important meat trade is suffering from lack of export markets, Great Britain being now the only one available for normal quantities ot Argentine meat products. Some of the packing plants are reported to be running with smaller staffs working reduced hours.

The bag trade is quiet. Not much of the old crop of grains and seeds is moving now, and the new crop not yet being in the ground there is little inducement to purchase to cover unknown requirements in the future.

The alpargata trade continues normally busy; and in the building industry there is a good deal of activity in evidence, with perhaps a falling off in new enterprises being commenced.

Jute Prices

Prices have again declined a little as the **following list** of official prices shows :—

Canvas	9 oz × 40″	24c.	per yd.	(25c.)
,, ...	10 ,, × 40″	26c.	,, ,,	(26½c.)
,, ...	10½ ,, × 40″	26½c.	,, ,,	(27¼c.)
,, ...	16 ,, × 27″	28c.	,, ,,	(29½c.)
Tarpaulin	22 oz × 44″	65c.	,, ,,	(67c.)
Special Yerba Cloth	17-18 oz × 36″	70c.	,, ,,	(72c.)
,, ,, ,,	17-18 oz × 40″	77c.	,, ,,	(79c.)
New Maize Bags, ...	9 oz × 48″	34c.	each	(35½c.)
Barley	9 oz × 52″	37c.		(39c.)
Oats	9 oz × 58″	39c.		(42c.)
Wheat	10 oz × 47″	36c.		(37c.)
Flax	10 oz × 50″	38¼c.		(39¼c.)
Flour	10 oz × 52″	39c.		(40¾c.)
Maize Pickers	·75 × 1·20 metres	$1·20		($1·23)
Used Wheat bags A quality, ...		26½	ctvs. each	(26½o.)
,, ,, ,, B ,, ...		24½	,,	(24½c.)
Best Patent Twine, 4 threads, Argentime manuf.		$ 2·50	pesos per kilo	($2·10)
Best Patent Twine, imported,		$ 3·50	,, ,, ,,	(nom.)

Importations

One cargo arrived from **India** during August, by the S.S. "Ernebank". It consisted of 12,369 bales of Canvas; 3,539 bales of Jute; and 50 bales of Bags.

Other arrivals were :—

From the United Kingdom

207	bales of Yarn
55	,, Fabrics
25	,, Cloth
2	,, Jute Articles

From Brazil

18	bales of Cloth
150	,, Bags

Stocks

According to official figures compiled by the authorities from returns which manufacturers and dealers are required to make, the following are the statistics of stocks of jute goods at June 30, 1940:—

Canvas

9 oz. × 40″	...	...	710,243	metres
10 oz. × 40″	...	...	24,782,286	,,
10½ oz. × 40″	...	...	268,920	,,
Others	...	...	2,639,938	,,
Tarpaulin	...	...	1,404,633	,,
Sacking	...	...	5,210,204	,,
	TOTAL	...	35,016,224	,,

Bags

New Bags		*Manufactured during first six months*	*Stocks at June 30*
9 oz × 48″ (Maize)	...	109,145 bags	16,233 bags
9 oz × 52″ (Barley)	...	16,950 ,,	26,667 ,,
9 oz × 58″ (Oats)	...	45,974 ,,	64,746 ,,
10 oz × 47″ (Wheat)	...	8,498,629 ,,	19,779,791 ,,
10 oz × 50″ (Flax)	...	3,709,276 ,,	375,615 ,,
10 oz × 52″ (Flour)	...	5,560,730 ,,	151,929 ,,
Maize Pickers' Bags*	...	17,895 ,,	138,004 ,,
Other New Bags	...	18,105,684 ,,	1,514,894 ,,
Total New Bags	...	36,064,283 ,,	22,067,879 ,,
Used Bags, Various sizes, ...	...		20,354,041 bags

Twine

Stocks of Twine at 30th June were :—

Patent	...	...	176,340	kilos
Half Patent	...	...	3,246	,,
Singer	...	...	3,364	,,
Sisal	...	...	821,648	,,
Cotton	...	...	69,422	,,
Others	...	...	49,149	,,
	TOTAL	...	1,123,172	,,

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* 1,271,998 Maize Pickers' bags (Cubanas) were imported during the half year.

Jute Trade in United Kingdom

DUNDEE REPORTS

ACCORDING to the reports published in the *Jute Review* of August, 1940 the number of unemployed jute workers in Dundee showed a slight decline at the middle of June, when 3,039 were wholly unemployed and 400 temporarily out of work, making a total of 3,439 unemployed jute workers. Compared with the middle of May the number of unemployed workers dropped by 126 and those temporarily out of work by 343.

ARRIVALS SATISFACTORY

Jute arrivals in Dundee remained at a very satisfactory level during the season ending in July, 1940. Total receipts amounted to 1,002,140 bales, only 1% less than last year.

DEMAND FOR GOODS LOW

Demand for cloth and yarn remained unsatisfactory throughout July and the first part of August. Consumers were only interested in occasional small quantities for early delivery. There was some enquiry for sand bags for private use, for cement sacks and for grain sacks for delivery over the next two months; fine packing hessian was also wanted. Ordinary hessian, however, is completely neglected and production had to be curtailed. Prices are nominal to a great extent owing to lack of business to test the market. The tendency is generally easier.

EXPORTS MUCH LOWER

Exports of jute manufactures from Dundee during the first six months amounted to 4,500 tons, as against 19,360 tons last year. Shipment of bags and sacks fell from 16,830 tons to 4,800 tons while exports of jute yarns and flax tow declined from 10,725 tons to 5,335 tons.

CURRENT PRICES

According to the *Jute Review* of August, 1940, following prices were ruling the Dundee markets :—

——	*Aug. 7*	*Aug. 9*	*July 4*	*July 5*
Raw Jute (£ per ton) C. I. F., Dundee.				
Firsts, September	32	...	...	44
Lightnings "	29	...	...	39
Tossa 2/3 "	29	...	...	34·75
Spot Firsts "	46	...	...	54
Spot Lightnings	31	...	...	37
Spot Tossa 2/3	28	...	...	35
Jute Cloth (*s.* per 100 yds.)				
Dundee Linoleum Hessian 10 por. 9½ oz. × 76″	...	77·08	...	81·00
Dundee Hessian				
10 por. 10 oz. × 40″	...	35·6	...	40·33
9 por. 8 oz. × 40″	...	29·17	...	35·75
Calcutta Hessians				
10 oz. × 40″ (Oct.)	26·41	...	...	26·25
8 oz. × 40″ (Oct.)	20·25	...	...	20·00
Dundee Jute Yarn (*d.* per lb.)				
14 lb. Carp warp	...	6·75	7·63	...
24 lb. Sacking weft ...	...	5·75	6·00	...
3-ply 8 lb. Twist	...	7·33	8·00	...
Calcutta Twills (*s.* per 100 bags) ...				
Twills, C. I. F., Liverpool (September)	73·00	...	...	67·62
B. Twills, C. I. F., Liverpool (September)	62·50	...	...	61·00

Jute Imports into Egypt

SLIGHT IMPROVEMENT

THE June number of the *Monthly Summary of Foreign Trade of Egypt* records the following imports of jute and jute goods into Egypt during the six months from January to June :—

——	Unit	Six months January—June	
		1940	1939
Jute, Raw or in Tow	K. G.	60	...
Yarn, Jute, single, unbleached. thick	K. N.	11,370	..
„ „ „ folded ...	„	85,713	83,876
Carpets, Jute, pure	„	5,980	24,582
Sacks, Jute, not reinforced with paper for Cotton ...	K. G.	1,393,384	223,887
Share of India	„	1,383,563	218,968
Sacks, Jute, not reinforced with paper for Sugar ...	„	243,706	181 501
Share of India	„	243,706	181,501
Sacks, Jute, not reinforced with paper for Seeds	„	1,836,082	1,031,187
Share of India	„	1,800,892	961,922
Sacks, Jute, not reinforced with paper for Onions ...	„	972,014	1,327,919
Share of India	„	971,496	1,215,726
Sacks, Jute, not reinforced with paper for articles not specified.	„	3,506,870	2,154,966
Share of India	„	3,468,540	2,085,767
Sacks, Jute, reinforced with paper	„	54,597	109,614

Centralised Australian Imports of Jute

STABILISATION OF MARKETING

REPORTS received by the *Jute Review* and published in the August issue shows that J. B. Bellair & Co., mercantile brokers, of Melbourne, would be appointed Central Jute Buyer for Australia under the Federal Jute Plan. Supplies of jute goods, especially cornsacks, branbags and woolpacks, for Australian users will be ensured under this plan. The object will be to stabilise the marketing of jute goods and prices not only during the war, but also in the period after the war, of general readjustment of business. Control will be exercised by means of the licensing of imports, which has just been introduced, and by control of prices by the Commonwealth Prices Commissioner.

THE WOOL PACK PROBLEM

The question of conserving the supply of wool packs is now receiving special attention at the sources of supply and the Graziers' Association of New South Wales has examined the possibility of having used packs returned to some central authority for re-sale to the growers. There are certain practical difficulties in the way and doubts have been expressed as to whether wool packs which have made the journey overseas could be sufficiently reconditioned to make them of further service to the growers. The Wool Secretariat in London was asked to obtain specimen second-hand packs in various conditions in order to ascertain exactly in what state they were. The Secretariat was informed, however, that all second-hand packs are to be used in the United Kingdom and that none would be available for return to Australia.

A New Use of Jute

JUTE SHOES

THE *Jute Review* of August, 1940 publishes an article on the possibilities of the use of jute in the shoe industry. It states that the American market is looking for footwear similar to that which used to be sent them from the European markets now cut off, owing to the war. The Argentine has specialised in the manufacture of a jute soled slipper, or *alparagata,* for quite a long time but this is not the type of footwear suitable for the fashionable tastes of the New Yorker. What is wanted is a shoe of fashionable appearance, having an upper of thin leather, good quality canvas, or of straps similar to those used in ordinary sandals. There is a good market for such shoes in the U. S. as it is generally recognised that the jute soles have many advantages over any other. They are light, they do not slip on wet wood or grass and can be dried easily without serious hurt to the sole. They are very popular, for all types of sport and in great demand by sea travellers or bathers.

The Argentine is endeavouring to fill the demand, but it is felt that the shoes offered are lacking in quality, and style. There is a big market waiting for the exporter, who can introduce this novelty in many varieties, embodying all the colour and fashion of the best Continental footwear.

Woolenising Jute Fibre

A NEW BRITISH PATENT

ACCORDING to a report published in the *Jute Review* of August, 1940 a British patent has been granted to a process to open up roots of jute to make them usable as ordinary jute fibre and to improve jute fibre or yarn to give it the character and similar qualities as wool and wool yarn. The process involved causes a loss in weight of 7% to 10% and reduces the tearing strength by about 10%. The cost of the process is very low. The fibre or yarn becomes finer and it can, therefore, be used not only for sack material but also for spinning finer yarns for weaving and knitting of various kinds of textiles. The process is as follows:—

1. Jute roots are bathed in sodium hydroxide solution and cooking salt and then the liquid is pressed out and the roots washed out in clean water. They are then put into water mixed with a small quantity of sulphuric acid. The material is then passed through a softener where the water is pressed out and the roots softened, then rinsed in clean water which is pressed out and the material then dried.

2. Jute fibre or yarn or other vegetable fibres such as flax, hemp and sisal are put into a bath of sodium hydroxide solution and cooking salt and then rinsed in clean water. After the liquid is pressed out of the material it is put into a bath with a small acidity of sulphuric acid and then again rinsed in clean water which is pressed out again and then the material is bathed with a mixture of chloride of lime and ammonium bicarbonate and then rinsed again through clean water. The liquid is then pressed out of the material and the material is dried. (Patent No. 522,620, Geza Lorand and Julius Neumann, London, N. 4.)

Fibres of the Italian Empire

ATTEMPTS TOWARDS SELF-SUFFICIENCY

ITALY has been trying to become self-sufficient for the last few years and special attention has been given to the industrial fibres in this respect. Various jute substitutes have been tried in the Italian jute mills with partial success and consequently Italy had been taking less and less jute every year. The following extracts from an article published in an Italian paper and received through the courtesy of the Indian Jute Mills Association give a good idea about this plan of self-sufficiency so far as the industrial fibres are concerned.

"The Under Secretary of Itatian East Africa, His Excellency Teruzzi, in a report that he lately presented to the Duce on the agricultural and mineral resources of our Empire showed how, after a preliminary phase of investigation, we may now difinitely consider ourselves upon the road to realising those aims of economic self-sufficiency, of development of our export trade and mass colonisation which are a necessary basis of the exploitation of our overseas territories.

Especial attention has been given by the Minister to the textile fibres of the Empire; above all, he laid stress on the question of cotton, in the production of which we may count upon a notable increase by the institution of cotton districts leased to Companies suitably equipped financially and technically. The fibre required by the native artisans, would be collected together, and a factory for spinning and weaving cotton is nearing completion at Dire Daua.

SEARCH FOR NEW FIBRES

Many textile fibres flourish in Italian East Africa and, to judge by forecasts based on reports published by the various Commissions of experts sent to the territories of the Empire, we should have here a reserve of textile raw materials sufficiently abundant to satisfy in full the needs of the Mother Country.

At the end of 1936 the Textile Fibres Co., of Ethiopia, inaugurated, in the territory of Italian East Africa, studies and research on plants suitable as sources of textile fibres for the national industry. The task of the experts sent in the early period to the Colony was to indicate those plants most promising for the purposes which the Company had in view, and to examine the possibilities of cultivation in the Empire territories of some of the well-established fibres used in the textile industry.

UNSUCCESSFUL JUTE CULTIVATION

The cultivation of flax was tried, a plant already cultivated by the natives for linseed production, and which they might cultivate for fibre production. Experiments with ramie has given excellent results in those localities in which it was possible to find land in a hot zone with abundant irrigation.

Jute cultivation has also been experimented with, but with little success, probably on account of hygrometric conditions and a temperature not sufficiently high to allow the plant to thrive. Difficulties have been met with the cultivation of hemp owing particularly to the agrological requirements of this plant, and also because the need for plentiful application of fertilisers does not make it possible at present to think of cultivating it intensively.

As regards the jute section, the Company turned to the study and investigation of *Hibiscus fibre,* which has shown itself the one best adapted for cultivation in Africa, where it grows wild.

COTTON CULTIVATION

The cultivation of "white gold"—cotton—in our possessions was methodically undertaken at the end of the last century, especially in Somaliland where in 1906 Carpenetti cultivated for the first time an area of nearly 7 hectares in the Torda plain (or level) on the Goscia, trying Egyptian and American long staple varieties. The attempt was notably successful and, as a result, other experiments were made around Bulo Boda, but they came to nothing on account of the persistent drought. A faithful and convinced advocate of cotton cultivation in Somaliland was Governor de Martino who in 1910 to 1916 was instrumental in forming numerous companies for cultivating this fibre, and the concession-holders also tried it on the banks of the Giuba and the Uebi Scebeli.

Towards the end of the older regime some local varieties of cotton were cultivated by the natives, the so called Arab variety being the one most widely used. Recently, in the great drive to develop the plains of the Tessenei, irrigated cultivation of cotton has been taken up, utilising the waters of the Gasc, and the results are remarkable. The favourite variety is the Egyptian Sakellaridis.

In Libya, owing to the lack of the necessary water for irrigation, cotton is not grown. Nevertheless in Western Libya some experiments were tried in the dry cultivation of the tree cotton, *Caravonica*, and these plants seem to ensure a good production.

But it is in Ethiopia that Italy will find its largest supplies of raw materials,especially cotton.

In the regions of the extreme southwest, Gimma, Caffa and Conso, and in the territories of the Tana, the places most adapted to the development of the precious fibre have been marked out and the continuous improvement of the product that can be obtained when the colonisation plan is in full operation will make it possible to realise a production of raw material which, it is hoped, will attain 2 quintals of excellent fibre per hectare.

Cotton production, once the present stage of organisation and experiment has been passed, will perhaps assume a decisive importance.

MILLS FOR MUSA FIBRE

In his report the Minister also laid stress upon the notable production of the plant *Musa ensete* (Scioa, Galla and Sidamo) the fibre of which is at present almost entirely absorbed by native industry, but will soon be utilised by two factories in course of construction at Gimma and Addis Abbaba for the manufacture of cordage, packing cloth and sacks.

The fibre is obtained from the leaves forming the false stalk of *Musa ensete*. The fibre is fairly smooth, of great fineness, with a moderate lustre, less than that of Manila hemp (*abaca*) which it greatly resembles. The filaments consist of bundles of elementary fibres which are cylindrical, ligno-cellulose in nature, with walls of even thickness.

A good yarn has been spun from this fibre, with an excellent appearance, very light in colour and very glossy; in tensile strength tests it has been found to possess a strength 20% less than that of jute yarn of similar count.

In the dyeing tests the *Musa ensete* yarn showed itself suitable for acid, basic and neutral dyes.

The fibres obtained from the leaves of the different species of palm are very similar among themselves; they are characterised by their white or tawny colour, they are light but possess considerable tensile strength, they are rather brittle and frequently break when an attempt is made to tie them. The fibres contained in the bark of the leaf stalks are remarkable for their great length, extreme toughness, and a certain smoothness.

Among the principal palms that yield leaves and fibres of value may be mentioned the "Fan Palam" (*Chamaerops humilis*), *Carludovica palmata* (from which "Panama" hats are made) and *Hyphaene thebaica*, well known and abundant in tropical regions, and also in Eritrea, more generally known under the name of "Dum", of which the nuts are especially utilised (giving vegetable ivory) and which are used by the natives to make objects of household use. After retting and breaking, the leafy peduncles yield coarse textile fibres. The leaves are largely used by the natives for plaited work, and for making fairly strong ropes, nets, mats, packing cloth and fabrics. Decortication of the leaves of *Hyphaene* produces fibres varying in colour from green to straw-coloured, opaque and of an appearance which resembles Esparto in many respects. The fibre is ligno-cellulose in nature and is coloured yellow by iodine.

HIBISCUS FIBRES

Among fibre-yielding plants which grow wild in the lands of the Empire are numerous *Malvaceae*, among which the most important from the point of view of its industrial utilisation, is *Hibiscus cannabinus*, or *Guinea hemp*, a sub-tropical plant similar to hemp, which is found more especially in Eritrea, in the Anseba region, at Tole, at Ducambia in Gaza, at Daneba and Carojai; it also grows throughout the hot regions of Ethiopia and Somaliland. It will withstand temperature of 40° and requires no special care in cultivation. The fibre which is extracted by retting and decorticating is whitish, or light greyish-yellow in colour, resembling jute in its external appearance. The natives use it to make ropes, bags, nets, coarse cloth, etc.

Another variety of Hibiscus is *Sabdariffa*, also called *Rosella*, in which Italian East Africa is very rich. Two varieties are known, the green which is utilised for its fibres obtained by retting, the "red", distinguished by its ruby-red flowers, is cultivated especially for the crop of fleshy and acidulous calices, from which "Karkade" (an·infused drink) is prepared. The fibres of this variety is considered one of the best and most economical substitutes for jute, and it is already known in the jute industry. The fibre is cortical, rougher to the touch than jute, and its filaments which are about 1 metre long and have a diameter varying from 0·60 to 0·12 mm., are composed of bundles of small elementary fibres having a morphological structure like that of jute.

From tests carried out it appears that *Sabdariffa*, or *Rosella*, is more resistant than *Cannabinus*, both to wind and to diseases, and also gives a better yield of fibre per hectare. *Hibiscus cannabinus*, however, gives a smoother fibre, of a higher spinnability than that of *Sabdariffa* ; the strength of either variety is superior to that of jute.

SISAL FIBRE

Very important also is the cultivation of *Agave sisalana*, usually called Sisal. In Eritrea its cultivation was begun in 1903 with the importation of a first consignment of 1,000 plants which, after a period of acclimatisation, were established in 1904 at Cheren and in 1905 at Ghinda. The plantations at Cheren showed themselves more precocious than those of Ghinda.

At the end of 1930 there existed in Eritrea only one concession for agave culture, that of Elaberet, where over an area of about 1,000 ha. of land about three million plants are growing.

In the territories of the Neguss' Empire, no one had thought of cultivating sisal, but now in the immense country "freed" by the armies of Rome, the plant has already been introduced, and it is certain that before many years have elapsed vast tracts will be planted to Sisal which, presumably, will become one of the most important products of the Empire.

Easy to propagate, this amazing plant is also very un-exacting, and is marvellously suitable for the exploitation of the poorest soils. It grows quite happily at sea level, and at altitudes of 100 to 1000 metres and more. It adapts itself to stony soils, and is not inconvenienced by lack of moisture.

In view of the growing importance of this plant, scientists have tried to breed varieties rich in the best quality fibre. One such variety, *Amaniensis*, more commonly known as "Blue' Sisal", has been produced at the Experiment Station of Tanganyika, where sisal is cultivated on a vast scale, so much so that it is calculated that in 1937 this colony had exported nearly 90,000 tons of fibre.

There are countless other exotic plants that grow wild in abundance in our Imperial possessions which might be singled out for study with a view to solving the problem of self sufficiency in textiles.

OTHER FIBRE PLANTS

We will mention some of the more important. Among the *Asclepias* family we have *Calotropis procera*, *Asclepias albida* and *Asclepias Phillipsiae*, *Leptademia Pyrotechnica* and *Daemia Extensa*, which grow wild in Eritrea and throughout Abyssinia.

Of the *Malvaceae*, besides *Hibiscus cannabinus* and *Hibiscus sabdariffa* we have *Hibiscus Magratus Hochst* and, finally, *Sida Rhombifolia*, which is considered to be the textile plant most suitable as a substitute for jute, the utilisation of which it might even surpass, and which is distributed throughout Italian East Africa. Cross, Bevan and King, who devoted themselves to comparative studies of the various fibres, affirmed—as Rossi reminds us—that this plant "although approaching jute very closely as regards structure and general chemical properties may definitely be considered superior in fineness and softness of handle, and in the more conspicuous requirement of uniformity".

For cordage, the most suitable fibres are *Urena Lobata*, also called Aramina, a malvaceous shrub also used by the natives of Italian East Africa, as well as *Pavonia schimperiana* and *Pavonia Tomentosa*. For the same purposes great use may also be made of *Abutilon Longicuspe*, called Zada Buack, a bushy mallow, common and plentiful on the temperate plateau; *Malva verticillata*, a frequent species of the uncultivated lands of the Ethiopian plateau, and *Grewia salviaefolia* of Somaliland and Trans-Fuiba.

And finally, we will briefly recall the cultivation of the *Sansevieria fibres*, which include about 30 species, almost all of which are capable of furnishing textile fibres that can be used industrially and are especially suitable for the manufacture of cables, and also nets, ropes, cords, mats and floor matting.

Roman civilisation to-day is tending to utilise to better advantage the leaves and fibres which can be furnished by this most abundant wild growing vegetation; for, in deference to those principles of self-sufficiency which are—and will become still more so—the basis of our economy, the fibres of the Empire will have an important part to play in the gradual substitution of the textile raw materials for which our country is now dependent on foreign supplies".

Packing Material in Germany

JUTE SUBSTITUTED BY PAPER

GERMANY'S packing material problems states the *Commerce Reports* arises for the fact that to a high degree the nation is dependent upon foreign sources for the requisite raw materials such as wood, wood-pulp, jute and other fibres etc. The leading packing materials obtainable from domestic sources are glass and plastics and so great .is the demand for substitute containers made of these materials that the producing companies are now taxed to utmost capacity.

Chief among substitute measures for easing the container shortage have been the substitution of paper for jute sacks, glass for tin plate, impregnated cardboard for metal sheet, and the careful recovery, repair, and reuse of all kinds of containers and packing materials, barrels, boxes, sacks etc., wherever possible. Measures for accelerating the return of empty containers to filling plants, reduction of stocks of goods in containers, and of empty containers in the hands of distributors have contributed to easing the container shortage.

ARTIFICIAL WOOD FIBRE

A JUTE SUBSTITUTE

The Industrial and Engineering Chemistry reports that among the new fibres and threads produced mainly as a substitute for jute, ramie, hemp and similar natural fibres the 'Hofa' thread has drawn some attention of the trade. This thread consists of wood fibre stock and viscose, the latter serving as a binder. In contrast to the practice in wood pulp production, the wood fibre stock is entirely freed from "fibre slime" and fine fibre fragments by thorough washing, so that a loose homogeneous fibre structure similar to that of raw cotton results. By suitable spinning and other treatment, a thread resembling horse hair is produced.

PROPOSED BAG PLANT IN CUBA

OPPOSITION ANTICIPATED

According to the *Daily Mill Stock Reporter* of September 4, 1940, the new Cuban constitution which was promulgated on July 5, 1940, contains a number of transitory provisions, one of which, apparently with the object of aiding the development of industries in Cuba, establishes a system of so-called Industrial Introduction Patents whereby organizations, in a position to provide the necessary guarantees of financial and productive capacity, are given customs duty concessions and other forms of assistance. The Cuban Department of Commerce, which is charged with the examination of applications for such patents, has received an application for a patent for the manufacture, elaboration and preparation for consumption or exportation of jute or canvas bags.

Reports indicate some opposition to the granting of the application on the grounds that it may increase the cost of bags to Cuban industries which require large quantities of bags for shipping their products, states the American Consulate General at Havana.

Hemp Market in Philippines

FIRMING TENDENCY

According to reports published in the *Daily Mill Stock Reporter*, total balings of Manila hemp for the first half of the current year amounted to, 637,600 bales, against 704,141 bales and 527,152 bales during the same period of 1939 and 1938 respectively. Exports during the first six months of 1940 totaled 626,200 bales as compared with 624,382 bales and 471,752 bales exported during the same period of 1939 and 1938 respectively. Purchases by Great Britain and Continental Europe declined while heavier shipments have been sent to the United States of America and Japan.

There was a fall in sales during July. Towards the close of the month buying interest on the part of the Trade in the United States and Japan caused a moderate advance in prices. During the first part of August the market undertone was firmer but the prices remained stationary.

The Statist quotes the following prices per ton of the "J2" quality in the U. K. markets :—

		1940			1939
Aug.	15,	£24/-	Aug.	17,	£17/10
„	22,	£24/-	„	24,	£17/5
„	29,	£24/15	„	31,	£21/-
Sept.	5,	£25/-			———

Mexican Sisal Industry

SMALLER PRODUCTION OF TWINE

THE *Daily Mill Stock Reporter* of New York states that the exports of sisal from the port of Progreso during July totaled 23,325 bales weighing 4,310,855 kilograms, compared with 26,988 bales and 4,925,884 kilograms in the preceding month and 33,533 bales and 6,222,306 kilograms in July, 1939. Except for 368 bales weighing 69,878 kilograms shipped to Buenos Aires, all of the fibre was destined for the United States.

Sisal exports during the first seven months of 1940 totaled 30,007,221 kilograms of which 29,298,039 kilograms were to the United States, 451,403 to France and 257,403 to Argentina. In addition, there were 1,542,251 kilograms of sisal mill tow, sisal waste, sisal bagasse and sisal tow exported to the United States in the seven months.

Prices for all grades of henequen, delivered at warehouses in Progreso and Merida, were reduced by 3 centavos a kilogram, effective on July 29, as a result of the continued appreciation of the exchange value of the Mexican peso during July.

Conditions of the Industry were not entirely satisfactory during July. Production of henequen twine still was below the usual seasonal level of production. Weekly output of cordage was about 175,000 lbs. in each of four cordage mills. Increased activity is reported in the manufacture of sisal bagging for the domestic market.

East African Sisal

A GREAT PROBLEM AHEAD

THE *Statist* of August 10, reports that the adjustment of the East African Sisal Industry to new conditions brought about by the present war is now engaging the attention of the British authorities. In the early months of the war there was good reason to believe that normality would be maintained. Through the Ministry of Supply Great Britain was taking 60,000 to 70,000 tons while another 30,000 tons was going to France. This left 30,000 to 40,000 tons for neutral countries. Demand from these countries has actually been run above the level with the result that working stocks in East Africa have been reduced below the normal level. Matters have, however, been altered by the French Capitulation. Not all the French quota of 30,000 tons may prove surplus, but even allowing for possible adjustments in distribution it is certain that total demand is now below the level of production.

There is a possibility that, as the calling-up of the white population of East Africa for military duties proceeds, the position will to some extent be rectified by an automatic shrinkage of output. To hold that view, however, may be to minimise the problem, for any appreciable decline in production would have unfavourable reaction on costs, interfere with cultivation and raise new difficulties for African labour. There is, too, the long term prospect to be borne in mind. It is calculated that all Continental stocks of fibre and binder twine will be exhausted by this year's harvest. At the conclusion of hostilities, then, there will be a big demand from the Continent for these products and it is argued that purchases by the British Government for storage purposes would ultimately alleviate a Continental grain famine. But large scale purchases of all kinds of commodities against a post-war shortage can scarcely be made a part of British policy at the present moment. Meanwhile, the belief persists in trade quarters that the British Government are likely to formulate a scheme to assist East African Sisal Growers in the disposal of their crop. The *Industrial Fibres Review* reports that 10,000 tons of East African sisal bought by the French Government but not shipped will be diverted to U. K. ports.

NEW USES

The war has extended the range of uses of sisal, for in addition to its ordinary commercial use as agricultural binder twine and in making of certain types of cordage the fibre has found a place in war-time needs for the making of pressed boarding for window protection.

COST OF PRODUCTION

Mr. N. C. S. Bosanquet, Chairman of the Consolidated Sisal Estates of East Africa Ltd., said during the fourth general meeting of the Company that the profit earned after providing for taxation, depreciation and payment of staff commission was 3·5% on the capital of the Company. During 1939-40 the Company's estate of 5,131 hectares produced 3,490 tons of sisal. The average percentage of No. 1 fibre was lower than that of previous year. The crop of 1940-41 has been estimated at 5,200 tons but the maximum crop may not be harvested. Cost of production for the past year averaged £11. 9*s.* 7*d.* on the estates of which £1. 2*s.* refers to rotation. After providing for all charges outside the estate and depreciation at £3 per ton, the cost of production for the year worked out at £19. 4*s.* 8*d.* per ton. The average selling price was £24. 11*s.* 6*d.*

The Chairman did not think that the industry can produce fibre at so low a figure as this if provision is made for a full replanting programme and necessary steps are taken to renew and improve housing condition for labour as well as providing for the future replacement of machinery. He added that the sisal industry has been called upon to face deplorably low prices in past years and as a result of this much old sisal which should have been replanted, has remained in the ground as an inferior producing unit while normal progress could not be made in the other departments.

EXPORTS FROM KENYA AND UGANDA

According to a report published in the *Commerce Reports* of August 10, 1940 exports of sisal from Kenya and Uganda during 1939 amounted to 29,150 tons as against 27,872 tons exported during 1938.

BRITISH TRADE WITH BALKANS

CORPORATION SECURES MONOPOLY FOR JUTE

The *London Times* reports that an effective organization for promoting British trade with Balkan countries has now been created by the United Kingdom Commercial Corporation.

The Corporation has secured the monopoly for the importation to those countries of Empire raw materials such as jute and tin; and it is also making important pre-emptive purchases of materials which would be useful to the enemy countries. Its operations have been extended to Turkey, and a large part of the trade between this country and Turkey will be transacted in future through the Corporation.

Jute Freight and War Risk Rates

FREIGHT RATES UNCHANGED

THE *Daily Mill Stock Reporter* of New York reports that the Burlap and Jute Association held a conference of its Committee representatives with the Calcutta-North Atlantic Steamship Conference and announced that the ocean freight rates on burlap and raw jute from Calcutta to North Atlantic and Gulf ports of the United States will continue unchanged for the 4th quarter of 1940 at 17 dollars per ton on raw jute and 20 dollars per ton on burlap. The burlap rates will apply to bills of lading dated from October 8, 1940 to January 7, 1941 and the jute rate on bills of lading dated October 1 to December 31, 1940.

War risk rates from Calcutta to United States Atlantic, Atlantic and Gulf ports' via Cape of Good Hope were as followes :—

American vessels, 1·5 per cent. other neutral vessels, 3 per cent; belligerent vessels, 4 per cent. Britsh capture and seizure: American, British, Norweigian and Dutch vessels, ¼ of 1 per cent. with full clause; Swedish vessels ¼ of 1 per cent. with limited clause; all other vessels excepting Italian and French, 1 per cent.

Industrial Fibres

PRODUCTION AND TRADE NOTES

Formosa Fibre Production

The U. S. Consulate at Taihokey, states the *Cord Age* of August, has reported that in 1938 sisal production in Formosa totalled 800 tons. Jute production exceeded 14,000 tons and about 800 tons of ramie fibre was grown.

Japanese Imports of Vegetable Fibres

The *Cord Age* of August reports that according to the 'Comintel' agency imported hemp and other vegetable fibres valued at 38,266,000 yen in during 1939, compared with 27,306,000 yen in 1938 and 40,995,000 yen 1937. The 1939 figure was an increase of 40 p.c. over 1938 and a decrease of 6·6 p.c. from 1937 total.

New Zealand hemp in Chile

According to a report published in the *Cord Age*, New Zealand hemp (*Phormium tenax*) plants have been successfully transplanted in Chile and the Chilean Formic Co., has established an industry on the basis of a farm of 400,000 plants near Valdiza.

Haiti Exports of Sisal

Haiti exported 4,875,942 kilos of sisal during the period October 1, 1939, to June 20, 1940, compared with 4,866,275 kilos shipped during the corresponding period of 1938-39, reports the American Consulate at Port-au-Prince.

Flax Growing in Peru

According to the *Cord Age* of August, the Government Agricultural Station in Peru is rèported to have obtained favourable results in its experimental cultivation of flax and it has requested the Government to set aside about 1,432 acres of farm land in the Pativilca Valley for the cultivation of flax. Provisional contracts have been drawn up, under which 17 farmers agree to sow flax in the Pativilca area. The Government has offered to import seed and distribute it to interested farmers and also to teach methods of cultivation and preparation of the fibre. It appears that the purpose of this experiment is to provide a possible substitute for cotton in Northern Peru, where insect pests have affected the cotton crop, reports the American Commercial Attache at Lima.

Ramie Growing in Brazil

According to the *Industrial Fibres Review* of August, ramie was introduced in Brazil seventy years ago, but production, mainly centred in Sao Paulo, is still on a very small scale ; it is expected that the area cultivated will reach 2,000 hectares by the end of this year, against 500 in 1939 and 1,200 in the early part of 1940. Yields of 2 to 2½ tons of fibre per hectare are reported, but only small quantities are expected to be available for export in 1941. Under normal conditions mechanically decorticated fibre cannot compete with Chinese hand-produced fibre, and Brazilian growers, realising this are apparently reluctant to expand the production of ramie.

Development of Columbian Fibres

The fibres grown in Columbia include *pita* and *fique* (commonly known in the country as *fibra de penca* or *cabuya*), reports the *Industrial Fibres Review* of August. Both resemble sisal and are used for making cordage, twine, packing cloth and sacks. A Bill was recently introduced in the House of Representatives to authorise the Columbian Government to subscribe 250,000 pesos to any Columbian company that may be organised under the terms of the Bill to develop pita fibre production.

Jute Imports into Brazil

Imports of raw Jute into Brazil amounted to 12,250 tons during the first two months, of this year, not less than 130% more than during the same period of last year reports the Jute Review of August, 1940.

Canadian Fibre Flax Seed

Profiting from experience gained in the war of 1914-18, the Dominion Government has taken control of all fibre flax seed in the Dominion and is supplying the English and Irish markets as well as Canada, according to a statement by the Hon. J. G. Gardiner, Minister of Agriculture, to the House of Commons at Ottawa. In the last war, the supply of fibre flax seed was cornered by speculators, and prices went beyond reasonable bounds. At the start of the present conflict, the Government acquired control of all available supplies in Canada, and will continue to control them. It also fixes the price, which has not materially altered in the last five years. New Belgian machines for handling flax were being experimented with in Canada at the outbreak of war and are being successfully developed to meet the demand for flax fibre which arose immediately after war began. A school for the instruction of farmers in the cultivation of flax has been opened at Plessisville, Quebec, according to an announcement by Mr. Adelard Godbout, the Premier of Quebec. The school, believed to be the first of its kind in Canada, will work in close collaboration with a foundry where machines to mill the flax will be manufactured. Mr. Godbout foresaw the day when Quebec Province would be able to export to world markets part of its flax production.

Turkish Export Prohibitions

According to the *Industrial Fibres Review* of August 1940, the export of flax, hemp, manila hemp, jute, ramie, and other vegetable fibres, and strong cords, ropes of the same materials, nets of all kinds, net bags, swings and other materials of net of the same materials, tissues, burlap, sacks and manufactures of jute, remie or other vegetable fibres, natural colour or dyed, sail cloths and tent cloths, sails and tents of all kinds, swings, tarpaulins for wagons and lighters, and linen tissues of all kinds has been prohibited save under Governmental licence.

Export from Ceylon permitted

The prohibition on the exportation of gunny bags and gunny cloth from Ceylon has been removed and exportation of these products is again permitted by a Govt. order of April 30, 1940 published in the Ceylon Govt. Gazette, Colombo, May 1.

Import Restriction in Slovakia

Paper sacks and jute fabrics may be imported into Slovakia only under import permit by an order of June 5, 1940 issued by the Minister of Economics and published in Uradue Noviny of June 8, 1940. The fee for the import permit for jute fabrics is ½ of 1 p.c., and that for paper sacks 5 p.c., both *ad valorem.*

Monthly Notes on Progress of Schemes

THE following is a short review to indicate the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

There is nothing special to report. The office of the Secretary remained fully occupied with the work that had accumulated during the Puja holidays.

A meeting of the Local Sub-Committee is expected to be held early in December. It has been provisionally decided to hold the next meeting of the Indian Central Jute Committee during the last week of January, 1941.

The Secretary is expected to visit Orissa at the end of November to inspect the working of the village Grading Schemes and the Jute Co-operative Sale Societies which are being financed by the Indian Central Jute Committee.

Both the Annual Report for 1939-40 and the Review of the work of the Committee during 1937-40 are expected to be released for publication during this month.

Marketing

The Durga and Lakshmi Pujas together with the observance of Kali Puja and Id-ul-fitr cut heavily into the working time of the staff this month. As a result the progress of work on the second report which is now being prepared has been slow. The Marketing Officer and Senior Assistant Marketing Officer continued their examination of back numbers of various trade publications extracting information for the important chapters dealing with Prices. Their work which has been of an exacting nature has produced only meagre results owing principally to the lack of details and bald method of reporting particularly in regard to overseas conditions affecting demand for both raw and manufactured jute contained in the local trade journals.

The Senior Marketing Officer attended the Annual Marketing Conference at Delhi from 1st to 4th October.

Mr. M. R. Kazimi, Senior Assistant Marketing Officer, has been appointed Assistant Purchase Officer (Textiles) under the Chief Controller of Stores, Indian Stores Department and left the Committee's service on 15th November. He is to be congratulated in being selected for this important post but his loss to this department will be severe as his sound practical knowledge both of the loose jute trade and the mill industry will be missed.

Agricultural Research

It is a common belief that thin-stemmed plants yield good quality fibre. To ascertain the influence of thickness of stem and the height of the plant on the quality and the out-turn of fibre, the following lots of jute stems have been harvested and retted separately:—

1. Thickness of the stem at the base:

   (*a*) 5-8 mm., (*b*) 8-11 mm., (*c*) 11-14 mm.,
   (*d*) 14-17 mm., (*e*) 17-20 mm.

2. Height of the plant:

   (*a*) 6-7 ft., (*b*) 7-8 ft., (*c*) 8-9 ft., (*d*) 9-10 ft.

Each one of these four classes has been further sub-divided into three classes *viz.*, Tops, Middles and Bottoms, by cutting the green stem into three equal portions.

Stripping and drying fibre and collection of seed were in progress.

Microscopic examination of sections of retted stems is under way.

Technological Research

Work has commenced on the spinning of the commercial samples of jute from the 1940 crop which are being collected. The export qualities are receiving attention first and the trials on the loose-jute qualities will follow.

Further work has been done towards finding out the best small-scale spinning trial technique for comparing the quality of cuttings by blending them with a standard quality of long fibre. Further experiments have also been made to see what differences in yarn quality result when the same quality of fibre is processed in different ways.

The work of seeking correlations between spinning quality and measurable fibre characters is developing in a promising manner. So far it has been possible to make full measurements on thirteen samples of fibre corresponding with samples on which trial spins have been carried out. A high degree of correlation is shown between fineness and "strength" (*i.e.* ballistic work of rupture) of the fibre on the one hand and quality ratio and regularity of the yarn on the other. A correlation co-efficient of 0·9 has been found for log B/M against (Q − C), where B=ballistic work of rupture of the fibre, M=coarseness of the fibre strands, Q=quality ratio of the yarn and C=coefficient of variation of the weights of two-inch lengths of the yarn.

YARN QUALITY

Considerable promise as a means of predicting yarn quality is shown by the results of various methods of estimating what may be termed the "packing quality" of the fibre. Two methods which are under trial were mentioned in last month's Bulletin and further close attention is being given to the matter. One simple method which has given interesting results is to pack a sample of fibre of standard weight and length into a cylinder of thin paper of standard dimensions and to observe the degree of compression of the cylinder when a light weight is applied. Another promising method is to measure the resistance offered to the flow of air by a standard quantity of fibre packed in a glass tube. Further work will be done to determine (*a*) which of the several methods under test gives results which link up best with spinning quality and (*b*) which is most suitable for routine testing.

In the chemistry department further work on the chemical treatment of mechanically extracted fibre has been done and the work on the chemical analysis of a range of cuttings of various qualities continues.

Improvement of Jute Forecast

Prof. Mahalanobis's final report on the Sample Census of Jute carried out during 1940 season has now been received. The report as also the Programme of work for 1941 and the budget estimates for that year are expected to be considered by the Jute Census Committee sometime in the beginning of December.

Statistics and Information

The influence of price on the export demand for jute has been investigated. Annual data were used for the analysis of long period fluctuations. This analysis covered a period of 18 years beginning with 1921-22 and ending in 1938-39. The results of the analysis indicate that the movement of jute prices over a long period have very little influence over the movement of jute exports. A similar analysis with monthly data, covering a period of more than six years ending in December, 1938, was undertaken to study short period fluctuations. Here, again, no relation between the movements of exports and prices of jute was established.

An investigation into the trade between India and the U. S. A. was carried out in order to find out whether a recent proposal in the U. S. A. for a tariff on jute and burlap on the grounds that India was taking less of U. S. manufactures was at all justified by facts. This investigation was carried out for three distinct periods, *viz.*, the post depression period, the period immediately preceding the outbreak of the present war and the period covering the first ten months of the war. Analyses of the trade values for all the three periods clearly showed that the U. S. manufactures were consistently gaining more grounds in India than did jute and burlap in the U. S. A. A comparative study of the U. S. trades with different countries of the world also revealed that the U. S. A. was getting a better market in India than in many countries with which the U. S. A. had trade agreements in force.

Further investigation is under progress which will deal with the quantum or the physical volume of trade between India and the U. S. A.

Several investigations of a minor nature were also carried out since the last issue of the Bulletin.

The export of gunny cloth during the first eight months of 1940 was estimated to have increased by 24 per cent as compared with the export for the corresponding period of 1939. This was mainly due to phenomenal rise in imports of gunny cloth in countries within the British Empire. The normal peace-time demand of the Empire countries for Indian gunny cloth was much below that of the U. S. A. The war, however, had put the Empire countries on a par with the U. S. A.

The relationship of demand and supply of jute in the 1941-42 season has also been investigated. The carry-over of crop from 1941-42 and the yield of the jute crop in 1941-42 under the scheme of compulsory restriction have been estimated. On this basis the probable supply of jute in 1941-42 appears to be more than sufficient to meet the probable demand.

Publicity

The Section has been busy in making preliminary arrangements for the publicity of the "Review of the work of the Indian Central Jute Committee for the period from December, 1936 to March, 1940", which is now ready and awaits release ; the preparation of a Bengali version of the same has also been taken in hand.

The work in connection with the production of the Bulletin has proceeded on the usual lines, and the Price Dissemination Service has been continued in Bihar and Bengal.

It may be noted here that as a war measure the size of the Bulletin has had to be reduced as from this month.

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CONTENTS

Subject ... Page

Indian Prices During November 547

New Sandbag Orders 547

Index No. of Prices 549

Monthly Variation of Exports 550

Production and Consumption of Jute 551

Delhi Conference on Jute Problems 552

Industrial Disputes in India 556

Rot-proofing of Sandbags 556

American Market for Indian Manufactures 557

Jute Mills' War Work 559

Flax Cultivation in India 561

Jute Registration and Alternative Crops 562

Trade Conditions in Argentine 563

U. S. A. Statistics 567

Jute Trade in United Kingdom 568

Index No. of Prices of Jute and Substitutes 570

Linoleum Industry 571

Bag Requirements of Netherland Indies 572

Bag Versus Bulk Handling 573

New Zealand Hemp 582

Future of Hemp Industry in Philippines 587

World Cotton Production 588

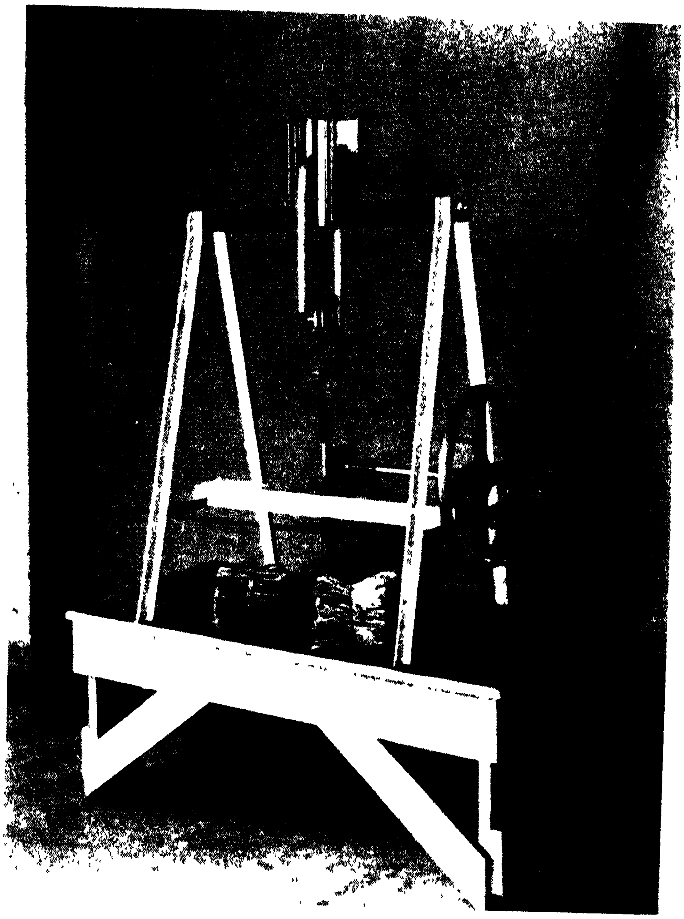
Industrial Fibres 589

World Wheat Situation 591

World Production of Sugar 592

Monthly Notes on Progress of Schemes 593

Conversion Table ... ... *Inside Back cover.*



Apparatus for Comparing
Compressibility of Cuttings, etc.
(*See page 595*)

5. OCT. 194

Indian Prices during November

MARKET CONTINUES DULL

THE general condition of the **loose jute** market during the month was one of almost complete stagnation of business. Mills were conspicuously absent from the market because of the dispute between the Bengal Government and the Indian Jute Mills Association regarding the proposed fixation of new minimum rates. Balers were the chief buyers, mostly in 'Jat' and 'District' Tossa grades, the volume of transaction, however, was small. In the second half of the month sellers became more anxious and actually did a little business with balers at eight to twelve annas below the minimum rates of Rs. 8/8/- and Rs. 8/- for 'Jat' and 'District' Middle.

NEW SANDBAG ORDER

It is announced that an order has been received from His Majesty's Government for 6 crores of sandbags to be delivered in equal quantities monthly from January to December, 1941. The price is Rs. 10-8 per 100 bags F.A.S, and the order, like the other British Government orders, is subject to cancellation at three months' notice. The quantity of jute required for the manufacture of these bags is above 63,000 bales.

PUCCA BALES

There was more enquiry from export markets, particularly during the second half of the month. Both shippers and mills were showing interest and did a fair amount of business at rates quoted below,

Mills		*Shippers*	
Firsts 2/3	@ 34/-	Dundee Daisee	@ 28/- to 30/-
Dundee Tossa	@ 34/-	Dundee Tossa	@ 32/8/-

Prices have fluctuated within narrow limits, and the month closed firm with an appreciating tendency. due to speculative movements.

HESSIANS

Prices were generally steady, with a considerable amount of business being put through in the first fortnight. Mills took advantage of the enquiries and closed good transactions for both near and forward deliveries at favourable prices. In the third week business was done mostly in odd widths and weights with a restricted turnover in 11 porters at Rs. 16/9/- for immediate delivery. The end of the month saw prices receding slightly due to idle conditions prevailing in absence of demand from overseas. Weekly ready prices were as follows :—

		9 Porters	*11 Porters*
7th Nov. 1940	...	Rs. 12/6	Rs. 16/12
14th ,, ,,	...	Rs. 12/3	Rs. 16/7
21st ,, ,,	...	Rs. 12/7	Rs. 16/10
28th ,, ,,	...	Rs. 12/6	Rs. 16/7

HEAVY GOODS

During the period prices were more stable than they have been for sometime. Majority of the sales took place in the second week. Business was done at advancing rates : B. Twills @ Rs. 32/12/-, Liverpools @ Rs. 37/8/-, Cornsacks @ Rs. 33/4/- for January/March delivery, and Heavy Cess (2″ green) @ Rs. 35/- for near delivery. During the remainder of the month there was nothing of importance to record though buyers were in evidence they were unable to contact business due to seller's reserve attitude and expectancy for higher prices. The market closed quiet but fully steady.

Index Number of Prices

CALCUTTA JUTE

(Base : July, 1914=100)

Period	Raw Jute (1)	Manufactured Jute (2)	Ratio % of (2) to (1) (3)
Average of 1914-18 ...	77	140	182
„ „ 1919-23 ...	100	142	142
„ „ 1924-28 ...	114	156	137
„ „ 1929-33 ...	59	88	149
„ „ 1934-38 ...	49	69	141
„ „ 1939 ...	80	102	128
January, 1940 ...	124	146	118
February, „ ...	130	130	100
March, „ ...	100	114	114
April, „ ...	99	111	112
May, „ ...	85	97	114
June, „ ...	80	94	118
July, „ ...	63	95	151
August, „ ...	53	85	160
September, „ ...	53	101	191
October, „ ...	50	103	206
November, „ ...	52	106	204

The prices of raw jute touched the bottom in October, 1940, the index being 34 per cent below the index a year ago. Raw jute prices seemed to rally for the first time in November after a steady and continuous decline for eight months at a stretch. The recovery in the prices of manufactured jute continued in October and November. The parity ratios for October and November, 1940, rose to 206 and 204 respectively as against 166 and 147 for the corresponding months a year ago. The disparity between the prices of raw material and those of finished goods was, therefore, much greater, after a year of the war, than it was in its beginning.

Monthly Variation of Exports

JUTE FROM INDIA

(Figures are in 1,000 tons)

MONTH	1940	1939	1938
	RAW JUTE		
June	16·2	34·0	34·7
July	8·1	21·0	43·0
August	11·3	37·2	40·9
July-August	19·4	58·2	83·9
	JUTE MANUFACTURES		
June	95·5	80·9	79·7
July	70·4	75·8	84·2
August	80·8	104·9	87·0
July-August	151·2	180·7	171·2
	RAW JUTE AND JUTE MANUFACTURES		
June	111·7	114·9	114·4
July	78·5	96·8	127·2
August	92·1	142·1	127·9
July-August	170·6	238·9	255·1

There was a serious decline in the export of raw jute in July, 1940. It was 50 per cent. below the export in the previous month, which itself had fallen to a record low level. The total raw jute export in July, 1940 was much less than even the average *weekly* export in July, 1938. In August, 1940, the export of raw jute increased slightly but it was still at a very low level. The export of jute manufactures in July, 1940 declined by 26 per cent. as compared with the previous month, but there was an increase of 15 per cent. in the following month. The total export figures for August clearly show that the export demand for raw and manufactured jute in the closing month of the first year of the war fell considerably lower than the normal monthly exports in times of peace.

Production and Consumption of Jute

FURTHER DECREASE IN MILL STOCK

ACCORDING to the *Indian Trade Journal* jute **arrivals** into Calcutta and Mills outside Calcutta Trade Block (excluding road arrivals and arrivals into mills by carts and boats) were as follows :—

From July 1, to November 23, 1940	...	33·03 lacs of bales
From July 1, to November 23, 1939	...	59·68 lacs of bales

Exports of raw jute from Calcutta and Chittagong from 1st July to 26th October, 1940 were 2·55 lacs of bales as against 8·03 lacs of bales exported during the same period of 1939.

Manufacture of jute goods during November, 1940 by the mills reporting to the Indian Jute Mills Association are given below :—

Sacking Bags	(in 1,000s)	29,154	or	31,966 tons
Hessian Bags	(„)	·20,623	„	4,947 „
Sacking Cloth	(in 1,000 yds.)	4,574	„	1,872 „
Hessian Cloth	(„)	91,355	„	24,052 „
Others	. . .	.	. .	2,851 „
Total, November, 1940		.	. .	65,688 „
Total, October, 1940		.	. .	72,749 „

The Indian Trade Journal reports the following **exports** of manufactured goods from Calcutta during the period from 1st January to 26th October :—

	1940	1939
Sacking Bags (in 1,000s)	343,854	385,288
Hessian Bags („)	668,329	313,483
Sacking Cloth (in 1,000 yds.)	57,024	31,400
Hessian Cloth („)	1,301,877	1,131,695

The following are the **stocks** of manufactured goods (cloth and bags) as reported to the Jute Mills Association by its members :—

Commodity	End of November				End of October			
	Million yds.		Thousand tons		Million yds.		Thousand tons	
	1940	1939	1940	1939	1940	1939	1940	1939
Sackings	143	109	61	46	178	115	76	48
Hessians	229	306	56	86	235	307	58	75

Delhi Conference on Jute Problems

ARRESTING FALL OF PRICES

A buying programme designed to prevent a possible collapse of jute prices has been agreed upon as a result of a Jute Conference held recently in Delhi to which representatives of the Governments of the jute-growing provinces and of the Indian Jute Mills Association were invited. A *communique* announcing the agreement says :—

"The Government of Bengal have decided to subject cultivation of jute in coming seasons to drastic restrictions. But although this measure will ultimately counteract the effect of the excessive size of the crop that is now coming forward for sale, they are seriously apprehensive of a temporary collapse of prices to be realised by the cultivators as they bring this crop to market.

"The mills have signified their willingness to agree to minimum buying prices, but if there is heavy selling pressure in the districts this would do little or nothing to avert such a collapse. The only preventive that seems calculated to be effective is the establishment of a buying programme, which will take jute off the market in a steady flow and in adequate quantities.

"As a result of the Conference, the representatives of the Indian Jute Mills Association have agreed to recommend to their members the adoption of such a programme, under which they will aim at making purchases at agreed prices upto specified amounts by specified dates. Any inability on their part to maintain this programme will be made good by corresponding purchases on account of Government. But the proposal for the introduction of a new grade of 'Low Bottoms' has been dropped. There will, however, be no obligation on the mills to buy any jute of quality lower than Bottoms, other than cuttings and any purchases of such jute that they may elect to make will be outside the terms of the agreement."

BUYING PROGRAMME

The results of the Delhi Conference were considered at a special meeting of the Indian Jute Mills Association and the following proposals accepted:—

1. The mills will do their utmost to purchase jute according to the following programme:

15 lacs of bales by January 15,
25 lacs of bales by February 15,
32·5 lacs of bales by March 15, and
37·5 lacs of bales by April 15, 1941.

2. This will be exclusive of any jute of quality lower than Bottoms other than cuttings. Jute thus excluded will be subject to no price agreement.

3. The basic minimum prices for loose jute in rupees per maund will be as follows:—

	Middles	*Bottom*
European Packed	8/8	6/12
Indian Jat	8/4	6/8
Indian District	7/12	6/-

Unassorted Daisee in Drums Rs. -6/- per maund.

4. If in any of the four periods referred to in the above buying programme the mills are unable to purchase the full amount stipulated, and if prices have not risen by any more than 4 as. per maund above the agreed minimum prices the Association will arrange to purchase jute up to the stipulated totals on behalf of the Government on the following terms:—

(i) The Association will act as agents for all Government purchase, ensuring that qualities are according to standard and such as can be utilised in mills' manufactures and therefore marketable.

(ii) The Association will arrange for the mills to give storage facilities for the jute, for a period which will not exceed 18 months except by mutual agreement.

(iii) Mills which give storage facilities will get a godown rent of 1 anna per maund per annum.

(iv) The Government will be responsible for insurance against all risks, to the extent that they may wish to have this effected, and will take all responsibility for deterioration, wastage, loss of weight and risk of failure to recover under-seller's guarantees for defects.

(v) The Government will be responsible for actual inward and outward handling charges except in respect of jute sold to a mill in which it is stored on their behalf.

(vi) The mills will make no buying charges.

5. The Government will be responsible for the financing of purchases effected on their behalf subject to any arrangement that may be made on a voluntary footing with mills under which they will perticipate in such financing or relieve Government of it altogether. The members, it is understood, will give their further consideration to the question of details regarding purchases on Government account should this become necessary.

It may be remembered that the Govt. of Bengal have already spent a good sum of money in purchasing raw jute. According to a statement made in the Bengal Legislative Assembly on the 29th November, 1940 by Mr. R. M. Sasoon this amounted to 30 lacs of rupees.

BENGAL ASSEMBLY DEBATE.

The Delhi Jute Conference concluded on the 5th December and earlier on December 2, 1940, the Bengal Legislative Assembly passed a non-official resolution that the Government of Bengal should take immediate steps "to ensure higher prices of raw jute for the cultivators in the current season by adopting such necessary and suitable measures as may be economically justifiable."

Dr. Nalinaksha Sanyal (Congress—Presidency Division Municipal), who sponsored the resolution on jute prices, said that the time had arrived for the Government to approach the Government of India for a solution of the problem. The Central Government should be compelled to intervene and prevailed upon to take up the administration of the jute industry. That Government would be in a position to compel the Government of Bihar, Orissa, Assam and also the United Provinces to come into line with a uniform programme on jute production and manufacture. Then there was the Indian Central Jute Committee whose advice and guidance might be available to Government.

Supporting the motion, Mr. J. C. Gupta, Chief Whip of the Congress Assembly Party, spoke of the various factors which had brought about the present situation in the jute trade.

The problem, he said, must be solved. There must be some understanding between the jute-growing provinces of India so that jute growers in Bengal would not be placed at a disadvantage. Arrangements should be made for absorbing all stocks by persuading jute mill owners to maintain stocks. This had, however, to be linked up with the Government's jute restriction scheme. It might be that jute mill owners would ask for a guarantee against loss. The Central Government who had been realizing revenue in the shape of jute duty, should give that guarantee.

Mr. W. A. M. Walker, Leader of the European Party, said that in the opinion of his party the resolution was both untimely and unnecessary for all these would be discussed in the Delhi Jute Conference and he hoped that the results of the conference would be in the best interests of all.

Intervening in the debate, the Finance Minister (Mr. H. S. Suhrawardy) said that they were going to the Delhi Conference in a spirit of co-operation, and he hoped that something good would come out of it and that they would be able to ensure the co-operation of the jute mill industry and all those who were capable of coming to the rescue and help of the agriculturist. That was the spirit which actuated them. The Government of India felt that the industry was so well organised that it could come to the rescue of jute growers. If the industry failed to do so, if the efforts of the Government of India to induce the industry to come to the help of the jute-growers proved fruitless, the Government of Bengal would take other steps in the matter. What those steps would be he would not discuss at present but the Government would take all necessary steps to see that the various groups in the House were consulted in the matter.

Industrial Disputes in India

JUTE MILLS SHOW DECREASE

According to a New Delhi message there were only 101 industrial disputes in British India during the quarter ending June 30, 1940 compared with the figure 128 for the previous quarter. They involved 2,68,580 workers and resulted in a loss of 24,74,263 working days, the corresponding figure for the earlier quarter having been 2,73,990 and 4,003,016 respectively.

Of the disputes, 31 were successful, 18 partially successful and 47 unsuccessful. Five were still in progress at the end of the quarter.

Rot-Proofing of Sandbags

According to a statement published in the "Capital" of the 12th December, 1940, the Imperial Chemical Industries have developed a cheap and easy method of rot-proofing sandbags by dipping them in sodium carbonate and copper sulphate. The treatment costs one tenth of 1d. per bag and is reckoned to increase the life at least eight times.

The number of disputes affecting the *Jute mills* was 8, workers involved were 35,046 ; days lost numbered 2,27,007 ; 1 was successful, 2 partially successful, 4 unsuccessful and 1 was in progress towards the end of the quarter ending in June, 1940.

American Market for Indian Manufactures

MEEK-GREGORY REPORT

THE report of Dr. Gregory and Sir David Meek who were sent by the Government of India in July last to the United States of America to investigate the extent to which it would be possible to find markets there for exports excluded from Europe as a result of the blockade, was made available to the Government at the end of October, states a Press Note issued by the Commerce Department, Government of India. The Report is now in the Press and will be laid before the Export Advisory Council at their next meeting. It will at the same time be circulated to Provincial Governments, Chambers of Commerce and other trade organisations concerned.

The main conclusions embodied are as follows :—

(*i*) The economy of the U. S. A. is at present in the phase of recovery from the depression of 1938. This recovery has been brought about in part by the generally favourable business situation created by the earlier phases of the war, in part by Allied orders and in part by the anticipation that the vast expenditure contemplated under the armament scheme will react favourably on business. It is not unreasonable to assume that, unless some unforeseen set-back takes place, the national income of the U. S. A. at present running at some 75,000 million dollars per annum, might under the circumstances of full armament activity, run at the level of some 80,000 million dollars.

(*ii*) Under these circumstances, the normal movement of imports in the U. S. A. should be maintained and there should be some expansion as the aggregate income of the country expands. In addition, under the direct impulsion of the armament drive, there should be an expansion of the demand for products for stock-pile purposes and for armaments manufacture. In this connection manganese ore and mica are of particular significance, but other commodities referred to in detail in the report, may also be affected.

(*iii*) In considering the export situation from India to the U. S. A. account must be taken of shipping difficulties. In this connection the inauguration of a new line between the two countries has improved matters appreciably, to judge by the opinions expressed in the U. S. A.

(*iv*) There is a growing interest in Indian consumers goods, such as cotton prints, druggets, etc. "Made-in-India" is itself a selling point and the anti-Japanese prejudice on the part of certain consuming section should assist the sale of Indian products. On the other hand, since a considerable proportion of the total sale of consumers goods takes place through large-scale organisations it is imperative that Indian producers and merchants should pay regard to the special character of the American market. Variety, novelty, strict adherence to the specifications laid down, promptness of delivery, are essential.

(*v*) There is considerable reason to suppose that trade could be promoted if Indian business men were to visit the U. S. A. more frequently and were to make personal contacts with actual or potential buyers. Moreover, in view of the aggressive attitude of the producers of competing goods, such as paper-bag makers, it is necessary to promote interest in Indian products by the preparation of pamphlets and other propaganda material setting out the merits of the products it is intended to sell, the terms on which they can be obtained, etc. This is a work which must be undertaken by business men themselves and can not be undertaken by Govern mental agencies.

(*vi*) Whilst the analysis of the position of individual commodities contained in the Report shows that in a certain number of cases expansion of importation is possible, thus providing new markets for products excluded from European markets and whilst, further armament expenditure is certain to increase the demand for certain special commodities, it is not possible for India to look to the U. S. A. as an effective substitute market for the entirety of lost European markets.

MARKET FOR INDIAN GOODS

With regard to the sixth of these conclusions, the position of all commodities the exports of which to European countries before the War were of any significance was examined. These commodities, it may be pointed out, were primarily raw materials, some of which are largely produced by the United States themselves and some of which enter into direct competition with American products. Complete substitution of the American for the European market is thus not easily possible. But a review of the findings on the various individual items make it possible to divide them into three groups.

Jute Mills' War Work

As a part of war supplies, the production of 25-pounder shell forgings in railway workshops has now been established. Jute mills have undertaken the machining of the shells.

The first consists of commodities of which it can be said that no problem of disposal arises owing to abnormal war demads in India or abroad or to other special conditions. These are tanned skins, raw rubber, pig iron and chromite.

The second group comprises commodities of which Indian supplies would have to face competition from production within the United States themselves or in the Philippines or in South American countries, in the welfare of which the United States are specially concerned, as evidenced at the recent Havana Conference and which apart from this have, in some cases, long established connections with that country. Commodities in respect of which such competition is so effective as to leave little hope for expansion of Indian exports are: the whole group of oilseeds (including groundnuts) and oilcake; raw cotton and cotton waste; raw hemp; raw hides; wheat; bones; bone manure and bone meal; lemon-grass oil.

The third group represents Indian exports the prospects of which in the U. S. A. are such as to warrant special attention being paid to them: these are jute goods, raw wool, raw skins, mica, coffee, tea, lac, coir manufactures, myrobalans, cashewnuts, kepok, cardamons, pepper and ginger.

The Report does not suggest that the potentialities of the U. S. A. as a market for Indian goods is confined either to "munitions" raw materials or to certain staple Indian products. On the contrary, the authors of the Report attach much importance to the cultivation of the American consumer market for manufactured goods and in this connection the attention of manufacturers will be drawn to the conditions under which alone, in the opinion of the authors of the Report, contact can be successfully established with American buying organisations.

Flax Cultivation In India

FIBRE FOR WAR PURPOSES

AT the beginning of this year the Government of India (Department of Supply) decided to encurage the production of flax, and with the co-operation of the Governments of Bengal and Bihar a scheme was drawn up which envisaged the planting of 1,600 acres and the provision of adequate plant to handle the crop, says the *Capital* of 5th December, 1940. A small Flax Committee, comprising the Directors of Agriculture of Bengal and Bihar, Mr. Nodder, Director, Techonological Laboratory of the Indian Central Jute Committee and the Controller of Supply, Bengal Circle, with Mr. Carbery, Director of Agriculture, Bengal, as Chairman, was appointed to control the scheme. 64 tons of pedigree seed was imported from Belgium and that part of the machinery which had to be obtained from England was purchased. Unfortunately, the imported seed has proved to be almost useless and over the comparatively small area sown there has been practically no germination. The scheme for the *Rabi* crop for 1940-41 is therefore a failure and the Government of India have, it is understood, reluctantly decided to cancel the purchase of some of the machinery.

Flax is an important war commodity and a large proportion of the normal sources of supply are now denied to India. Efforts are being made in various parts of the Empire to grow it and a decision will have to be made in the near future as to the extent to which India is to co-operate in this war effort next year. Flax was grown successfully in and around Bengal during the last war and the fact that it can be grown here is indisputable. Bengal has, therefore, a definite responsibility to exploit possibilities.

It is understood that certain firms in this area and perhaps some individuals apart from the Directors of Agriculture of Bengal and Bihar, are already interested in the growing of flax. The Flax Committee, it is stated, wish to ascertain the extent and the views of these interests before submitting proposals to the Government of India for 1941-42. Information is required as to what areas have been sown this year on an experimental basis, or otherwise, what plant exists and lastly what assistance and co-operation the Government can expect. Apart from war needs the possibility of establishing the growing of Flax on a commercial basis should afford an added incentive to extensive development.

The Flax Committee request that those interested should get into touch with the Controller of Supply, Bengal Circle (Lt. Col. J. R. Marriott).

Colonel Marriott recently visited Behar to examine the possibilities of cultivating flax in that Province, states the *Indian Nation.* It is understood that experimental cultivation of flax will be started in north Behar.

JUTE RESTRICTION

PRODUCTION OF ALTERNATIVE CROP

RECENTLY a conference was held at Writers Buildings with Hon'ble Mr. Tamijuddin Khan in the chair to discuss what steps the Department of Agriculture should take in order to encourage the cultivation of substitute crops for jute.

The 'Untited Press' understatands that the Government of Bengal have decided that propaganda should be started for growing alternative crops like paddy, sugarcane, ground-nut and other *Rabi* crops. Government, it is understood, would offer necessary help in regard to seed to growers, including transport facilities for those places where seeds are not available in sufficient quantities.

Trade Conditions in Argentine

DEMAND FOR BAGS SCANTY

THE following is the full text of Mr. W. J. Jackman's Monthly Report No. 34 on conditions affecting the Jute trade in the Argentine Republic :—

THE figures are not yet published, but there is little doubt that exports in September showed a further falling off. August exports were $32 million pesos below the imports, and for the first eight months of the year the export balance was $28 million pesos as compared with 188 millions in the same period of last year.

Maize shipments, which normally would be very substantial at this period of the year, are very low indeed. On the other hand the United States during September made purchases of hides on a scale not seen here for many months, and was also a very free buyer of wool. Further purchasing of both commodities in the future is anticipated.

Negotiations are taking place for a loan of possibly 40 million pounds to be made by the Republic to Great Britain. Prospects of success appear to be good, and it is hoped that the business may be concluded before the new Argentine crops begin to move, so that British purchases of agricultural and pastoral products may be substantially increased.

A trade mission from Britain is expected to visit the Republic very shortly. It is hoped that the visit will result in increasing the interchange of Argentine primary products for British manufactured goods.

An Argentine trade delegation, headed by the Minister of Finance, has just returned from Brazil, where negotiations looking to an increased interchange between the two Republics was successfully concluded. Details are not yet available; but it is believed that increased facilities for the admission of Brazilian textiles to Argentina are to be conceded. Whether jute fabrics will be affected is not yet known.

In a statement made to the Chamber of Deputies last week, the Minister of Finance intimated that the financial year will probably result in a deficit of $150 million pesos. The expenditures are estimated as $1,085 million pesos, against anticipated cash receipts of $935 millions.

The plan of public works officially adopted by the Government provides for expenditures of $172½ million pesos, which includes much building construction.

In the official exchange market there were no changes during the month. The buying rate for the pound remains at $13·50 pesos, and the selling rates $15 and $17 pesos. The buying and selling rates for the dollar are $335·82 and $373·13 pesos per $100 dollars respectively. In the free market the dollar fluctuated considerably, closing the month at $431.

Crop News

The first official estimate of the areas devoted to small grains and seeds has been published, showing 13,082,300 hectares planted with the six crops dealt with (wheat, linseed, oats, barley, rye and canary-seed), which is 3·38% lower than last season. ***Wheat*** with 6,900,000 hect. is 4·4% lower than last year, and ***linseed***, with 2,700,000 hect. 12·2% lower. The season is late, but the crops generally are doing well. Planting of the new ***maize*** crop is going forward under favourable conditions.

The third official estimate of the crop of *sunflower seed* calculates the yield as 325,000 tons, which is 20·4% greater than that of last year.

The crop of *pea-nuts* is estimated as 94,700 tons, 108·8% more than that of last season.

Stocks of *wool* at September 1 are announced to have been 42,594 metric tons, as compared with 47,108 tons on August 1.

The Jute Trade

Market conditions continue unchanged. It is the "between crop" period for the bag trade, with the future of the new grain and seed crops as yet in doubt, with the critical period still ahead. The movement of the old maize crop is relatively very small, and the consumption of bags for the maize crop shows a greater shrinkage than in the case of any other grain crop, as the percentage handled in bulk is greater.

In the meat trade most of the packing plants are said to be working at low pressure because of the reduced export demand and also the lack of ocean tonnage available. It is hoped that there will be increased buying by the United Kingdom ere long. Although her purchases during the past year have been higher than in normal times, they have not sufficed to compensate for the loss of Continental markets for Argentine meat.

In the building trade interest has been aroused by the decision of the National Government to add to its expenditures on public works, in spite of the prospective serious deficit in the Budget, in order to ward off unemployment. Much of the public works planned consist of new buildings.

Jute Prices

Prices are a little higher than a month ago, as will be seen from the official list:

Canvas	9 oz × 40″	26 ctvs.	per yd.	(24c.)
,,	10 ,, × 40″	28 ,,	,, ,,	(26c.)
,,	10½ ,, × 40″	29 ,,	,, ,,	(26½c.)
,,	16 ,, × 27″	30 ,,	,, ,,	(28c.)
Tarpaulin	22 oz × 44″	66½ ,,	,, ,,	(65c.)
Special Yerba Cloth	17-18 oz × 36″	73 ,,	,, ,,	(70c.)
,, ,, ,,	17-18 oz × 40″	80 ,,	,, ,,	(77c.)
New Maize Bags,	9 oz × 48″	36½ ,,	each	(34c.)
Barley	9 oz × 52″	39½ ,,		(37c.)
Oats	9 oz × 58″	43½ ,,		(39c.)
Wheat	10 oz × 47″	38½ ,,		(36c.)
Flax	10 oz × 50″	40¾ ,,		(38¼c.)
Flour	10 oz × 52″	42½ ,,		(39c.)
New Maize Pickers' Bags	·75 × 1·20 metres	$1·20	each	($1·20)
Used Wheat Bags Mark A		26½ ctvs.	each	(26½c.)
,, ,, ,, ,, B		24½ ,,	,,	(24½c.)
Best Patent Twine, 4 threads; Argentine make		$ 2·50 pesos	per kilo	(2·50)
,, ,, ,, imported,		$ 3·50 ,,	,, ,,	(3·50)

Importations

There were no arrivals from India during September. From Great Britain there came: 214 bales of cloth, 362 bales of yarn, 99 bales of fabrics and 4 bales of cord. The only other arrivals were 45 bales of twine from Brazil.

U. S. A. Statistics

IMPORTS OF JUTE AND OTHER FIBRES

IMPORTS of jute, jute goods and other fibres into the U. S. A. as published by the U. S. Department of Commerce is given below:—

(Figures are in tons)

Commodity	August '40	July '40	January—August 1940	January—August 1939
Jute, Raw ...	741	326	36,713	32,744
Jute Butts ...	74	210	1,889	376
Burlap (Hessians)	11,115	29,845	145,092	131,181
Jute Bags and Sacks	607	653	10,744	9,113
Sisal and Henequen	13,579	11,173	100,261	69,336
Manila Hemp ...	4,674	4,846	37,244	26,272
Istle	757	749	6,164	5,651

HESSIAN STOCK AND CONSUMPTION

HESSIAN stock and consumption figures of the U. S. A. excluding the Pacific Coast business, as reported to the Indian Jute Mills Association, are given below, the figures being in millions of yds. :—

	November.		October		September	
	1940	1939	1940	1939	1940	1939
Stock	253	240	261	221	284	258
Consumption	57	63	71	73	60	91

Jute Trade in United Kingdom

MARKETS QUIET

THE U. K. Correspondent of the *Capital* writes in his recent reports :—"Business in the U. K. jute markets is still very quiet. There is, of course, always a number of transactions occuring in the market daily but these are mostly for small lots to meet the immediate wants of the consumers. Prices of both yarns and cloth are not being properly tested and anyone with a decent order would have little difficulty in breaking the quoted limits. Brokers are receiving few offers of raw jute from Calcutta, but spinners are not much interested.

DISADVANTAGE OF CALCUTTA GOODS

Dundee goods are competing strongly with Calcutta fabrics for any business that is going, buyers of the latter being unwilling to purchase when there is no guarantee as to the date of shipment or delivery, while the new clause in the contract that the goods can be dumped anywhere on the shores of the United Kingdom, and that buyers are responsible for them thereafter, is another deterrent factor. Though Calcutta goods are much cheaper the difference in the prices is not sufficient inducement for buyers to buy Calcutta goods when they are more sure of the delivery of Dundee goods.

There are occasional Government orders being placed and sandbags form a certain percentage of the business being done, but outside of these manufacturers are finding it difficult to carry on their normal trade. There is, therefore, keen competition to secure other business and, though quotations are usually made at $4\frac{1}{8}$d. for $10\frac{1}{2}$ oz. 40 ins., $3\frac{7}{8}$ for 10 oz. and $3\frac{1}{8}$d. to $3\frac{3}{16}$d. for 8 oz. buyers have no difficulty in securing 1/16d. to 1/8d. discount. Dundee spinners and manufacturers are still working under condition whereby they have to curtail their production and this always makes the cost of production higher. It is remarkable, therefore, that they continue to reduce their prices.

The United Kingdom is publicizing the slogan that "Britain delivers the Goods", and this may be one of the reasons why export business is being fairly well maintained. There is an opportunity for producers in Britain, not only of jute goods, but of all other commodities, to collar markets which were formerly supplied by other countries. Of course, the requirements in jute goods are limited on account of the war, but Dundee manufacturers are making new friends which they are hoping to retain for many years to come.

COST OF MANUFACTURE

The high rates of wages payable by producers of yarns and cloth in Dundee have always been a draw-back, but employers have always been keen on any project whereby they could save on any other department and reduce the costs of production. It is estimated now that it costs £11 to £12 for spinning and much the same to manufacture, so that if a spinner has to pay about £33 for Daisee-2/3 ex-warehouse, it is costing him say £44 to produce his yarn, yet, at today's price of 3s. 0d. for cops, he is only getting about £40 12s. 6d. nett. The manufacturer pays this price for his yarn, but at 3⅛d. for 8oz., or 6¼d. per lb. for his cloth, he is receiving approximately £46 10s., which amounts to a visible profit of £15 17s. 6d. per ton, less cost of manufacture. It does not, of course, always work out like this, as manufacturers are still receiving deliveries of yarn which cost them many pounds per ton more.

RECENT REPORTS

Reports from London, dated the 3rd December, published in the *Capital* show that Dundee jute yarns had been very strong during the last week of November and there were few sellers. It is understood that most spinners have already sold to the extent of their raw stocks and are not booking further until the price for controlled jute is announced. A further report dated the 10th December states—"Jute yarns are virtually unobtainable in Dundee. Jute Control has now been extended to imports of jute goods."

Jute and Substitutes

INDEX No. OF MID-MONTHLY PRICES

The following index numbers of prices have been prepared from figures published in the *Daily Mill Stock Reporter* of New York. They only show the variations of prices as compared with the base period.

(*Base: August, 1939 = 100*)

Commodity	January 1940	April 1940	July 1940	Oct. 1940	Oct. 1939	Oct. 1938
JUTE, RAW :						
NATIVE FIRSTS ...	222	184	144	104	120	98
MANILA HEMP :						
Davao F ...	144	120	105	129	214	97
Davao G ...	148	120	100	150	223	105
SISAL :						
Java A ...	129	122	117	85	132	105
African ...	135	124	141	138	138	105
ISTLE :						
Palma ...	158	138	138	100	112	96
Tula No. 1 ...	122	116	116	111	106	100
BURLAP :						
8 oz. × 40″ ...	170	133	128	130	177	95
10 oz. × 40″ ...	172	138	134	134	175	91
10 oz. × 36″ ...	225	170	163	160	220	113
OSNABURG :						
36″, 2·85 ...	126	113	108	111	121	89
40″, 2·05 ...	131	122	118	121	126	95
KRAFT PAPER :						
No. 1 ...	126	137	179	179	111	111

Linoleum Industry

JUTE SUBSTITUTED BY COTTON

THE term linoleum was originally coined by Frederick Walton for the material of his own invention and is now indiscriminately used to describe any floor covering having a base of solidified oil adhering to a canvas or felt foundation.

Technically there are three distinct classes of floor covering described commonly as linoleum :—

(*a*) Floor cloth, made by building up on both sides of the canvas successive layers of paint until the desired thickness is obtained. It is then printed with a pattern and varnished.

(*b*) Linoleum proper, made by rolling or pressing on to the canvas an incorporated mass of linoleum "cement," cork dust, food flour and pigments.

(*c*) Cork carpet, made in the same way as linoleum but with polymerized oil, cork dust and pigments.

The manufacture of linoleum requires large investments of capital, as its process takes a very long time to complete. Large stocks must, therefore, be carried, thus in addition necessitating bearing the risk of considerable price changes in the raw materials, *viz.* jute and linseed oil.

There are at present more than 80 firms producing linoleum in different parts of the world and according to an estimate made in the Jute Annual a few years ago these firms used to consume about 50,000 tons of jute materials every year.

One of the main competitors of the jute backed linoleum is the paper backed linoleum which was put into the market a few years ago. Paper backed linoleum is cheaper but not so durable as the jute backed linoleum but attempts are being made to get sufficiently durable and cheap paper to overcome this drawback.

A recent report published in the *Jute Review* shows that attempts are being made in the U. S. A., the biggest linoleum consumer in the world, to manufacture cotton backed linoleum. It is reported that U. S. A. linoleum manufacturers are now putting sample pieces of special quality osnaburg (a kind of brown cotton sheeting) into work.

BAG REQUIREMENTS OF NETHERLANDS INDIES

ROSELLE BAGS SUPPLY ABOVE 25 P. C.

THE Netherland Indies requires 30-40 million bags every year for the export of sugar, Copra and other products, states the *Daily Mill Stock Reporter.* Most of these bags are imported, chiefly from British India. Production of native-made bags in 1939 was about 4 million and two European-owned bag factories were manufacturing about 6 million bags a year from roselle fibre. A fairly large quantity of native mats, which are used in the packing of tobacco are also produced in Java.

Java produces a good quantity of sisal fibre, which is generally exported. A factory which could be utilised for the manufacture of bags from sisal is also available, should a shortage of bags develop.

Bag Versus Bulk Handling

AUSTRALIAN EXPERIENCE

"BAG handling of wheat and storage still have a large place in Australian practice and may long persist in some degree", says Mr. J. S. Davies in an interesting article recently published by the Food Research Institute of Standford University, California.

The paper gives the history of the development of the Australian grain elevator system and discusses the experience that has been gained by that country. A brief history of the progress of the system together with extracts from the paper referred to above is given below:

Country and terminal grain elevators had been long discussed but never introduced in Australia before New South Wales, in 1916, provided for a State system. Commonwealth financial aid shortened delays in starting construction, but led to some modifications in the plans affecting the Sydney terminal and the first country 'silos'. Opened for partial use in 1920-21, this system was slow to find favour with farmers, merchants and millers; and for ten years other States were content to observe the operating and financial experience in the pioneer State.

In 1930-31, ocean freight differentials in favour of bulk wheat were established, and bulk shipment overseas soon became the rule. With this change, bulk-handling within Australia has expanded materially. The New South Wales plant has been extended, is more widely used, and yields operating surpluses, but has been cursed by recurring congestion. Victoria is building a similar State network, a portion of which is being first used this season (1939-40). In Western Australia progressive farmers' co-operatives have developed a cheaper, more flexible, unorthodox system which has worked well. Since early in 1936, when this received delayed official sanction, it has expanded rapidly despite poor terminal facilities and grudging co-operation from the State railways.

ADVANTAGES AND DISADVANTAGES

The respective advantages and disadvantages of handling grain in bags and in bulk have been canvassed and recanvassed in an extensive literature in various countries, and in Australia for at least forty years. If the proof of the pudding is in the eating, what conclusions does Australian experience yield ?

Gains have been realised, more or less as expected, through safeguarding grain from recurrent plagues of mice (particularly devastating ones occurred in 1917, 1924 and 1932), from more frequent but lesser damage from weevils, rain or floods, and perhaps from loss by leakage and by fire. Dust explosions, peculiar to 'silo' handling, have fortunately been rare. On the other hand, the promised saving of freight on dirt and rubbish has not materialised ; Australian country plants are not equipped to clean the grain, and the need has not developed. Progress towards better grading has been very slight, and gains from higher marketability and eventually improved quality have not been reaped.

Experience has disappointed the optimistic assertions that all of the cost of sacks, twine, and sewing would be saved under bulk handling. Even in New South Wales, machine sacking is still typical ; and most of the grain that is bulked at country sidings reaches there in sacks temporarily fastened. While these can be used several times, not all the costs associated with bag handling are eliminated. When congestion delays or limits bulk receival, part or all of the expected saving is lost.

Bagged wheat, moreover, sells at a small premium over bulk wheat (typically ½d. to ld. per bushel), and the weight of the sack is paid for as if it were grain. This is due partly to the second-hand value of the sack, and in part to some persisting perference for sacked wheat on the part of Australian millers, who can thus get lots that are more homogeneous from a milling standpoint. Hence the farmer gets back a substantial part of the purchase price of the sack.

Substitution of bulk handling has undoubtedly yielded substantial economies in time and labour at country stations, at terminals and ports, and increasingly at the farms. This is an important consideration in Australia, where wages are characteristically high. More problematical as yet are the relief of farmers from "exactions" of labour unions, the effect on Australian labour, and the effects upon the railways—not yet well adjusted to bulk handling except in New South Wales.

SAVINGS FROM BULK HANDLING

Financial gains from bulk handling have fallen far short of the roseate dreams of its early advocates, but eventually proved real. The Commonwealth Royal Commission, which made extensive investigations into costs, published early in 1935 a distinctly cautious appraisal which concluded thus :—

> ....The Commission has not thought it necessary to analyse in detail the costs of handling wheat by the bulk method as opposed to the bag. To some extent this is a matter for the State authorities. Similarly, the adoption of bulk handling as a scheme of transportation in any State must remain a matter for the Parliament and people of that State. The Commission is of the opinion that some saving can be effected by the adoption of bulk handling as opposed to bag handling, but the amount of that saving will depend entirely on the efficiency of the system which is adopted, on the extent of the capital cost which is incurred, and on the extent to which the farmers use the system.

In an official circular designed for general circulation, published in 1936, the New South Wales Department of Agriculture calculated the savings to a representative farmer at about 2¾d. per bushel. Some have doubtless realised these and larger economies, but it is reasonable to infer that bulk handling would have developed there far more rapidly and more completely if this had been the general experience. The Western Australia Royal Commission in 1935 found the farmers there unanimous in reporting savings in labour and expense, and estimated their saving at 2d. to 3d. (more specifically 2½d,) per bushel.

The bulk systam has also enabled the grower, if he chooses, to retain effective control of his wheat over a longer period, but this has not proved an unmixed blessing. As in other regions, Australian farmers often lose by deferring the sale of their wheat ; but the silo system has changed the procedure by which they may defer selling more than it has altered the possibility of such deferment.

THE TIME FACTOR

The time required for effective application of bulk handling was gravely underestimated. Construction of the orthodox elevators, in New South Wales and in Victoria also, took much longer than had been expected. Considering the obstacles encountered, the unorthodox facilities in Western Australia were very promptly provided. The New South Wales growers were very slow to patronize the new system, and Victoria seeks to guard against the same inertia by compelling farmers to use it for at least 75 per cent of their marketed crop. Only in Western Australia have farmers eagerly used bulk facilities wherever accessible, hauling longer distances to reach stations with bulk plants. The ratio of volume handled to capacity, however, is unlikely to approach the turnover earlier anticipated.

Lower costs of ocean freight on bulk wheat became a reality only in 1930 or 1931, at long last confuting the skeptics and at least partially justifying the faith of the early enthusiasts. The New South Wales system was pre-mature, and it was a mistake to push it during the war. In various respects, time has borne out the views of those who formerly said "the time is not ripe," "let us wait and see," but also the position taken in Victoria in 1932 that the principle is so soundly established that bulk handling must come into general use —though by no means universally in the form earlier contemplated..

CO-OPERATIVE Vs. STATE ENTERPRISE

In respect of economy and efficiency, some form of private enterprise would probably do better than a government system ; but there has apparently been no time when private business concerns were willing to venture first into this field or when such could have secured the requisite authorization. The South Wales Department of Agriculture is in many respects outstanding; yet in the conduct of the grain-elevator enterprise it has shown weakness characteristic of politically dominated government agencies attempting an essentially business task. By contrasts, the co-operative system in Western Australia has shown enterprise seasoned with caution, and flexiblility coupled with firmness and fairness. This limited comparison does not necessarily argue in principle in favour of Co-operative *vs.* State construction, control, and operation. The Westralian co-operatives take high rank among the exceptionally well-managed co-operative enterprises in the world of 1915-40. In other States co-operatives might have done less well, and in Victoria the State scheme may work fairly well.

Success in Western Australia despite lack ef adequate terminal facilities does not negate the earlier view that such facilities are of basic importance; but it modifies that view and suggests that standards of adequacy are relative, not absolute. Similarly, harmonious collaboration between the bulk-system controllers and the farmers, shippers, State railways, and port authorities is highly desirable; and in neither New South Wales nor Western Australia has the way yet been found to bring this about. But it does not necessitate a controlling body of any particular composition—even for quasi-political purposes. Personnel counts more heavily, and logical appropriateness of representation less, than most governments have realized; and at least for the purposes of operating such a system, there are virtues in single administrative headship, commercial or governmental. But there is need of some auxiliary body, perhaps including representatives of the growers, merchants, bulk-handling authorities, and State railways, probably headed by a cabinet officer, but with expert assistance, that could wrestle with tough problems and recommend solutions of those that repeatedly arise involving capital expenditure and operating procedure.

Looking back over forty years, one can heardly help being impressed by the number and variety of the investigations into the subject of bulk handling in Australia, and by the generally unsatisfactory character of many of them. An outstanding exception is that of the Western Australia Royal Commission of 1935. Its task was indeed easier because, on the initiative of the co-operatives, bulk handling was already a going concern in a small way in the State; but the Commission investigated thoroughly and intelligently, reported promptly, and made definite recommendations which, with important exceptions, were promptly acted upon. Comparably efficient were the Westralian Farmers' investigations through 1930; long negative, and followed up quietly for many years, these were eventually promising enough to warrant limited tests and then bolder experiments in time to insure their holding the field against a government system. The investigations by the Victorian Grain Elevators Board may deserve similar credit.

PROSPECTS

Once established, wisely or unwisely, bulk handling comes to stay. The open questions chiefly concern whether, how far, and how the Australian systems will be expanded further, and what changes in control and operating procedure will be made.

We venture to forecast that bulk movement from farms to country stations will become increasingly prevalent in at least three of the four wheat states, and that bulk movement by truck to mills and ports will supplement such movement in South Australia. Bulk-handling authorities will probably come to accept responsibility for handling all the wheat delivered at country stations, whether in bags or in bulk, and eventually discharge that responsibility smoothly with effective co-operation from the railways. In western Australia country facilities will doubtless be improved, as well as extended, on the present lines; and adequate terminal elevators and railway trucks will at length be put in use there;

Westralian country plants will probably serve as models for similar ones in parts of South Australia, and perhaps to some degree in the other two States, where the orthodox systems will remain standard. Some form of temporary bulkheads, however, will probably become a feature of all the systems to aid in meeting overflow requirements. It would be logical and economical to avoid establishing bulk facilities at country points where receivals must be small; but farmer pressure may, as in other countries, compel such installations. Bag handling will be greatly reduced, but may long continue to have a place in the Australian system.

Through protracted discussions of bulk handling in Australia, there has been much confusion between two objectives that are more or less distinct: economical handling and safe storage. If the emphasis is on bulk *handling*, the systems will certainly cost must less to provide and to operate than if the emphasis is on bulk *storage*.

Extension and improvement of storage sheds for bagged wheat, and the addition of bulk storage, have reduced the dangers of deterioration in the sack, chiefly from weather damage, or of loss from mice and weevils. Thus growers and the trade have acquired increased ability to hold wheat. Prompt movement after harvest is by no means imperative, if price prospects seem to warrant delayed sale. Storage for several months is inexpensive, though by no means costless. Once the satisfactory storage facilities are filled, however, the risk of damage tends to restrain the use of inferior storage space, and thus to impel sale even at some apparent sacrifice; and, as another harvest approaches, the need for clearing the facilities for the new crop ordinarily requires definitive disposition of the old wheat.

WAR AND BULK HANDLING

War conditions have already influenced the bulk-handling and storage situation in Australia, and bid fair to leave their permanent impress upon it. Cornsacks have been in short supply because the crops (1939) in all the wheat states greatly exceeded forecasts, and dear also, because of high shipping costs and urgent war demands for jute and bags. Because of this, South Australia may provide bulk facilities for the next crop, on the tested Westralian model. In New South Wales, with a crop far above late forecasts, and very restricted exports, the country and terminal elevators were quickly choked ; bulkheads, similar to those used in Western Australia to take care of surplus deliveries, were hurriedly installed, and by mid-February held nearly 8 million bushels. If that state's bulk receivals exceed the previous record, as anticipated, it will be because of this form of storage. The Australian Wheat Board has sanctioned bulk-storage construction of semi-permanent character at various points in at least two of the States.

Exports have been slow, and Australians may have been overoptimistic regarding the prospects for exporting the wheat already sold in large volume.

The virtues of storage in the sack have not disappeared. The losses in stacked wheat in the last war were by no means extreme ; and during this one, with larger knowledge and resources, they can presumably be kept much lower, at a cost. Peacetime requirements do not warrant building permanent bulk-storage facilities adequate for extreme accumulations, and while the war lasts expansion of the elevator plant of the two eastern States will be relatively expensive. Bagged wheat, temporary bulk-storage facilities, and durable bulk-handling and storage plants, all have their proper places in the optimum Australian scheme.

The following tables will give an exact idea as to the progress of the bulk handling method :—

BULK HANDLING OF WHEAT IN N. S. WALES

Marketing year.	Total capacity of the elevator system (000 bushels)	System Receipts (000 bushels)	Elevator Receipts as p. c. of crop	Bulk Export as p. c. of Total Export.	Bulk delivery to mills as p. c. of total deliveries
1929-30 ...	15,863	8,887	25·8	10·9	34·2
1930-31 ...	16,373	23,673	35·9	39·3	41·3
1931-32 ...	16,613	26,001	47·3	59·4	53·1
1932-33 ...	17,183	34,455	43·7	68·3	52·2
1933-34 ...	17,693	21,797	38·2	79·1	41·9
1934-35 ...	21,083	21,509	43·9	71·0	54·6
1935-36 ...	21,773	25,108	51·4	93·9	62·8
1936-37 ...	23,123	29,231	53·3	95·1	64·3
1937-38 ...	23,223	32,680	59·3	92·3	72·5
1938-39 ...	23,323	27,898	47·2	86·0	...
1939-40 ...	23,473	...	...	...	...

BULK HANDLING OF WHEAT IN WESTRALIA

Marketing year	Total capacity of the elevator system (000 bushels)	System Receipts (000 bushels)	Receipts as p. c. of crop.	Bulk export as p. c. of total export.
1931-32 ...	563	1,265	3·0	0·4
1932-33 ...	563	1,564	3·7	4·1
1933-34 ...	6,102	11,095	29·7	39·1
1934-35 ...	6,102	10,018	37·1	50·4
1935-36 ...	6,102	7,125	30·6	44·4
1936-37 ...	10,318	10,376	48·8	61·8
1937-38 ...	12,550	24,421	67·4	83·1
1938-39 ...	14,333	27,713	75·2	...
1939-40 ...	15,660	36,858	...	...

New Zealand Hemp

GOVERNMENT SUBSIDY TOTALS £115,731

NEW Zealand Hemp or *Phormium tenax* plants belong to the lily family and grows wild over considerable areas of New Zealand. The fibre strands are embedded in the tough flesh of the sword-shaped leaves which yield 10-14 p.c. of fibre. But the cultivated plants give a higher percentage of fibre. The leaves are cut with sickles and tied in bundles, which are loaded on trucks and taken to the mill, where they are fed between rollers into a "stripping" machine in which the soft tissues are removed by beaters attached to a revolving drum. The resulting fibre is mechanically washed to remove the residue of green matter ; the water is drained off, and when fairly dry the fibre is taken into paddocks or bleaching fields to be bleached by exposure to the weather. Finally it is made up into hanks and baled.

The Commercial fibre has several names, *viz.*, *New Zealand Hemp*, *New Zealand Flax*, *Phormium*, *Muka Flax*. It is hard, lustrous and flexible and is generally used for making ropes and twine. In 1931 a large woolpack and sacking factory was opened in Foxton and is working satisfactorily.

SUBSIDY PAID

The following information, collected from the *New Zealand Year Book*, 1940, on the subsidy paid to the fibre may be found interesting :—

"In recent years flax milling has recorded a very heavy decline from the peak reached in 1925-26 when 1,241 persons were employed and the total value of output reached £550,000. By 1930-31 the collapse of oversea price had caused most of the mills to close down with the result that over 1,000 men were rendered unemployed and the value of the output was reduced to less than £50,000."

"During 1930-31 deputations from the exporters, flax millers and flax workers approached the Government for assistance to the industry. After careful consideration of the circumstances, the former Unemployment Board decided to grant a subsidy of £3 per ton on hemp graded for export on or after 18th December, 1931 with the *proviso* that on and after the 20th January, 1932, this was to be replaced by a subsidy on hemp exported to England and Australia of £4 per ton. In both periods the subsidy was to be plus the difference between a rate of exchange of £105 p.c. and a maximum of £118-12-6 p.c. The granting of the subsidy had the desired effect and the subsidy of £4 per ton continued upto 31st March, 1936. After 1936 oversea prices increased slightly and the subsidy was reduced to a graduated scale of subsidy from 'Good Fair' at £4 per ton to 'Rejected' at £2-10 per ton. During 1936-37 oversea prices fluctuated somewhat and the subsidy was increased or decreased accordingly. Then when the prices began to fall to a very low level the Government decided to increase the subsidy on hemp shipped on and after 1st February, 1938 to the following rates :---

Quality	*£ per ton*
Good Fair	9·5
High Fair	8·5
Low Fair	7·0
Common	6·5
Rejected	6·0

"The above rates applied to fibre stripped upto 15th July, 1939 and shipped upto 31st August, 1939."

"The amount paid by way of subsidy since its inception in 1931 totalled £115,731 upto 31st August, 1939."

PRODUCTION AND EXPORT

Industrial Fibres published by the Imperial Economic Committee gives the following figures as regards the acreage, production and export:—

Year.	Area under N-Z hemp (000 acres)	Mill Production (000 tons)	Export (000 tons)
1929	63	...	15
1930	68	14	9
1931	71	2	2
1932	77	2	4
1933	64	5	4
1934	73	5	4
1935	73	6	4
1936	69	8	6
1937	63	8	5
1938	66	8	4

According to the *New Zealand Year Book* approximately 3,500 tons of the fibre is required for home consumption. The surplus is exported to the following countries:

Country	1936	1937	1938
United Kingdom (tons) ...	2,363	2,112	2,126
Australia ,, ...	2,965	2,788	1,703
Canada ,, ...	45	96	20
Germany ,, ...	227	79	366
U. S. A. ,, ...	50	46	51
Others ,, ...	57	72	143
Total ,, ...	5,705	5,193	4,409

PRICES.

The average value of the export quality of the fibre was as follows:—

1934	£13·23 per ton
1935	£14·74 ,, ,,
1936	£18·74 ,, ,,
1937	£24·51 ,, ,,
1938	£18·25 ,, ,,

More recent prices of the fibre in the London Market were published in volume II of the *Bulletin.* These along with the price of jute in pounds per ton are given below for comparison :—

——	Jute (Common to fine)		New Zealand Hemp	
	Lowest	Highest	Lowest	Highest
January 1939 ...	16·3	18·8	15·5	18·5
February 1939 ...	17·0	...	15·5	18·5
March 1939 ...	19·5	21·7	15·5	18·5
April 1939 ...	21·5	24·0	15 5	18·5
May 1939 ...	22·1	24·6	16·5	19·5
June 1939 ...	22·1	30·3	16·5	19·5

The *New Zealand Year Book* gives the following details about the mills which extract the fibre :—

——	1935-36	1936-37	1937-38
No. of Mills	29	32	33
Persons employed	506	540	537
Salaries paid (£)	69,367	92,202	104,169
Raw Flax Used :—			
Quantity (tons)	59,375	63,227	64,864
Cost (£)	18,657	16,000	12,456
Other materials (£)	55,265	64,936	70,030
Other Expenses (£) ...	1,249	2,667	1,898
Fibre Dressed (tons) ...	6,770	6,951	7,006
Tow Produced (tons) ...	1,152	1,249	1,402
Total value of output (£) ...	138,336	179,323	177,512

SUBSTITUTION OF JUTE

It has been mentioned before that in 1934 a factory was installed at Foxton to manufacture woolpacks and sackings from New Zealand hemp. During 1936-37 arrangements were made by the Government whereby the whole of the output of this factory would be absorbed. But exports of jute goods from India to New Zealand do not seem to have been affected, as will be seen from the following figures taken from the *Seaborne Trade of British India* :—

Official year	Export of Jute manufactures from India to N. Z.			
	Sacking Bags (000)	Hessian Bags (000)	Sacking Cloth (000 yds.)	Hessian Cloth (000 yds.)
1930-31 ...	10,169	1,423	120	3,202
1931-32 ...	5,415	723	56	2,929
1932-33 ...	5,121	1,126	83	2,843
1933-34 ...	7,502	1,272	209	4,218
1934-35 ...	8,462	1,727	139	4,177
1935-36 ...	8,104	1,505	128	4,176
1936-37 ...	11,009	2,296	213	4,125
1937-38 ...	11,233	2,788	279	4,679
1938-39 ...	10,908	2,231	101	4,028

Future of Hemp Industry in Philippines

PESSIMISTIC OUTLOOK

"JAPANESE success in Philippine hemp brings us face to face with the question of the Filipinos' future," says, *Fortune* in an interesting survey and analysis appearing in a recent issue.

The article points out that Manila hemp faces a number of prolems in the "long-term future". For example :

"The big menace comes from North Borneo, where seed taken from the Philippines more than ten years ago has resulted in hemp varieties that yield 100 per cent more fibre than those grown around Davao in Mindanao. As an added starter in the race to out-compete the Philippines in hemp, the United Fruit Co. has planted 100,000 acres in the Panama Canal Zone with Davao seed. And the Dutch, too, are now raising hemp in Sumatra.

"It will take from ten to twenty years, of course, to bring North Borneo and Central America into serious competition with the Philippine abaca plantations. Meanwhile, the short-term implications for the Philippine hemp industry are loaded with dynamite. Go down to Davao, hemp centre of the islands, and you will discover that in a city of 95,400 there are some 18,000 Japanese. The Japanese operate the Philippine deep-sea fishing industry, and they are the big hemp growers in Mindanao. The Furukawa and Ohta Davao abaca plantations, using advanced machinery, seem 200 years ahead of most Philippine agriculture. The land laws, theoretically, prevent outright Japanese ownership of great tracts of Davao land. But a swarm of Davao abogados, or lawyers, have discovered practical loop-holes in these laws : subsidiary companies have multiplied, Filipino and U. S. 'homesteaders' have allowed the Japaness to work their holdings, Japanese have taken Philipino wives and Philipinoes as dummy owners have placed their land corporation shares in

World Cotton Production Higher

HEAVY FALL IN CONSUMPTION

WORLD production of cotton this season is roughly two million bales higher than last year, states the weekly trade report of the New York Cotton Exchange. It estimates the total at 29,276,000 bales as compared with 27,367,000 bales produced during the last season.

The figures indicate that, with the exception of Russia, all the major cotton growing countries of the world will have larger crops than they had last year. Russia shows no change. Actual figures in thousand bales for the major countries were as follows :—

U. S. A.	12,565
Brazil	2,300
China	1,000
Egypt	1,850
India	4,550
Russia	4,000

According to the U. S. Department of Agriculture, consumption this season may total 8,250,000 to 8,750,000 bales compared with 7,750,000 last season, states the *Daily Mill Stock Reporter.* Prospective increase in domestic consumption was likely to be offset by reduced consumption in foreign markets. 'World Consumption' the Department said, "for the current season may be reduced to the lowest level since the early 1930's.

The world carry over of all cotton on August 1, 1940, is likely to be materially larger than 20,330,000 bales in 1940 and somewhat larger than the record of 22,750,000 in 1938. The 1941 world carry over of American Cotton may approach or even exceed the 1939 peak of more than 14,000,000 bales."

Industrial Fibres

PRODUCTION AND TRADE NOTES

Sisal Export from East Indies

Exports of hard rope fibres, chiefly sisal, from the East Coast of Sumatra during the first four months of this year amounted to 11,837,231 net kilograms, according to official returns of the Netherlands Indies to the Textile Raw Materials Bulletin of the Bureau of Foreign and Domestic Commerce, states the *Cord Age* of September, 1940. Of this total 9,183,749 net kilograms were shipped to the United States ; 894,146 to Italy ; 614,540 to Sweden ; 447,241 to Norway ; 356,368 to the Netherlands ; 98,026 to Egypt ; 132,369 to France ; and 110,792 to other countries.

From Java and Madura during the January-March quarter 7,592,955 net kilograms were exported, of which the United States took 3,470,317.

Other destinations were as follows: 841,704 kilograms to the United States ; Italy, 241,195 ; Denmark, 75,768 ; France, 60,000 ; Argentina, 85,192 ; Canada, 75,982 ; Union of South Africa, 45,050 ; Great Britain, 50,000 ; Norway, 30,000 ; other countries, 59,480.

Bahamas Sisal Exports

The Bahamas still export sisal fibre but the quantity, although gaining from 607 tons in 1935 to 1,487 tons in 1936, fell off to 115 tons in 1939, according to a report from the American Consulate at Nassau states the *Cord Age* of Sept.

Embargo on Exports to Indo-China

The Government of India have found it necessary to impose an embargo on exports from British India to French Indo-China of all goods subject to licence, states a press-note issued by the Department of Commerce on the 15th November, 1940. It is authoritatively explained that the reason for this embargo, which is Empire-wide, is to be found in the fact that that country has recently prohibited exports to British territory.

Jute Exports to Turkey suspended

According to a notification issued by the Export Trade Controller, Karachi, licences for exports of jute manufactures to Turkey from Karachi Port have been suspended, reports the *Associated Press.*

The notification adds that applications for export if accompanied by evidence of 'bonafide' business done with the named consignee, will be considered if received by the end of the calendar year.

Mexican Sisal

Exports of sisal from Mexico for August, 1940 was 3,825,463 kilograms compared with 4,310,855 kilos in the preceding month and 8,387,912 kilos in August, 1939 reports the *Daily Mill Stock Reporter* of New York. Exports during the first eight months of 1940 amounted to 33,834,684 kilograms.

Fibre Production in Spain

Spain is important as a manufacturer of textiles but secures most of the essential raw fibre from oversea countries. A decree published recently advances the efforts of the Government to make Spain less dependent for textile raw materials such as cotton, silk and hemp says the *Daily Mill Stock Reporter* of 12th. October, 1940.

France turns to Ramie

A *United Press* dispatch from Vichy, France, says that with wool, cotton and jute stocks almost depleted, and with the blockade preventing replacement, France, seeking substitute fibres has decided to experiment in Indo-China and Ivory Coast with ramie.

World Wheat Situation

A SMALLER CROP

ACCORDING to reports published in the *Cargill Crop Bulletin* of the 14th August 1940, the world wheat production on the basis of the preliminary unofficial forecasts, is indicated to be 10 p. c. below that of 1939 and about 15 p. c. below the record 1938 crop. Production in millions of bushels in the more important jute consuming countries is given below :—

	1937	*1938*	*1939*	*1940*
U. S. A.	876	932	755	729
Argentine	185	336	119	240
Australia	187	155	210	150
World Total (excluding U. S. S. R. and China)	3,852	4,605	4,270	3,866

In the U. S. A. the winter wheat crop has been harvested and is estimated at 556,000,000 bushels. The spring wheat crop started with a very bright prospect but received severe set back in June and July causing apprehension of a near failure in many sections. However, nature has again wrought a miracle and the rain and cool weather of August have filled the heads so that the yields are far beyond expectations. Loss due to rust and insects has been a minor factor this year.

In Australia, wheat is deteriorating over wide areas because of extreme dryness and soaking rains are urgently needed.

World Production of Sugar

BIGGER CROP EXPECTED

ACCORDING to the information recently published in the *Indian Trade Journal*, the world prodution of sugar, both cane and beet, during 1939-40 as estimated by Messrs. Willett & Grey, is 30,005,000 tons (18,898,000 tons of cane sugar and 11,107,000 tons of beet sugar), as compared with 28,667,000 tons (18,451,000 tons of cane sugar and 10,216,000 tons of beet sugar) in the preceding season. Detailed information about different important countries is given below :—

Cuba : Production during 1939-40 has been placed at 2,750,000 tons.

Porto Rico : Production during 1939-40 amounted to 858,000 tons as compared with 761,000 tons in the preceding season.

Dominican Republic : Production duriug the 1939-40 season was estimated at 397,000 tons up to the end of May.

Brazil : Production during 1939-40 is estimated at 1,157,000 tons, raw value, which is 7 per cent. above that of the preceding season.

Java : The first official estimate of the production of sugar for 1940 is placed at 1,451,000 tons as against 1,550,000 tons, the final estimate for 1939.

Japan and Formosa : Production during 1939-40 is estimated at 1,314,000 tons, raw value, as compared with 1,663,000 tons in the preceding season.

Philippines : Production during 1939-40 so far amounted to 876,000 tons, against the total production quota of 1,024,000 tons fixed for the season. It is estimated that the total production will be slightly higher than 912,000 tons.

Queensland : Production of sugar during 1939-40 is officially estimated at a record crop of 889,000 tons.

U. S. A. : The first estimate of sugar beet during 1940, is placed at 8, 946,000 tons as against 9,619,000 tons in 1939.

Monthly Notes on Progress of Schemes

THE following is a short review to indicate the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

In the course of his tour in Orissa from the 27th to the 29th November, 1940, Secretary accompanied by the Director of Development, Orissa, inspected the centre for the grading of jute at Kendupatna and attended the meeting of the general body of the Jute Growers' Co-operative Society and discussed with the jute-growers and the local officials the problems of retting and the marketing of this year's crop. At Danpur he inspected the jute godown of Messrs. Sinclair Murray & Co. and attended another meeting of jute-growers presided over by the Director of Development, Orissa. He also visited Marshaghai in company with the Senior Marketing Officer, Orissa.

The Annual Report of the Indian Central Jute Committee was published on the 22nd November, 1940, and the Review of the work of the Committee on the 10th December, 1940. Both these publications were given as wide a publicity as possible.

Intimation has now been received from the Government of India that they have been pleased to accept in principle the proposals submitted by the Committee for the extension of the activities of the Technological Research Laboratories for work on the new uses for jute. The detailed estimates for the scheme which have been asked for by the Government of India are being prepared.

With the approval of the Government of India, the Bengal Government have appointed Mr. D. L. Mazumdar, I.C.S., Secretary of the Indian Central Jute Committee, to be an Associate of Prof. J. A. Todd, who has been brought out from England by the Bengal

Government to investigate the constitution and working of the jute and hessian futures market. Mr. Mazumdar will be associated with Prof. Todd in these investigations in addition to his duties as Secretary of the Indian Central Jute Committee.

The next meeting of the Indian Central Jute Committee has been fixed for the 27th to 30th January, 1941, and the agenda for the meeting is now being prepared. It is expected that the notes will be circulated to the members in the beginning of January.

On the invitation of the Government of Assam, Secretary proceeded to Shillong to attend an informal conference convened by the Government of Assam on the 14th instant. The Hon'ble Minister-in-Charge of Agriculture, Assam, presided over the conference, which discussed several problems relating to the establishment of an Agricultural Research Station in Assam, supply of improved jute seed and developmental marketing activities. Tentative conclusions on all these points were reached, and the offer of the Government of Assam to co-operate with the Committee in all these matters was greatly appreciated.

Technological Research

Technological Research Memoir No. 1 entitled "A Technique for Spinning Yarn Samples from Small Quantities of Fibre" is ready for issue. The preparation of further Memoirs is well in hand, including:—

(*a*) The Relation between the Physical Fibre Characters and Spinning Quality of Jute.—I

(*b*) The Moisture Regain of Jute.

(*c*) Test Results on a Range of Commercial Yarns of Various Qualities.

Comparative spinning trials, and fibre measurements, have been made on two samples of tossa jute sent by the Director of Agriculture, Bengal, one being a quality much liked by Spinners and the other considered less satisfactory. Our tests agree in showing that the former is of better quality.

Some raw and bleached samples of sunn-hemp have been examined at the request of the Principal, Government Central Textile Institute, Cawnpore. Attempts were made to spin fairly fine yarn from the samples but with the machinery available the yarns obtained even at 20 lb. grist were of poor quality. It is possible that better results would be obtained on a gill spinning frame but there is little likelihood that a good yarn below 12 lb. grist could be spun from sunn-hemp of the qualities examined and the prospects of utilising sunn-hemp for the manufacture of a seaming twine for wool-packs do not seem bright. Jute, although it does not yield twine as strong as Italian hemp twine, seems much more suitable as a substitute.

The testing of a further series of yarns of commercial origin has been taken up.

The spinning of the commercial export qualities of jute continues. In the first set of samples examined (Dundee Standards) the quality ratios for the yarns spun in the laboratories are as follows:—

Diamonds 104·0, Medium Dacca Reds 95·4, Firsts 93·0 Lightnings 90·9, Hearts 90·1. As against these the following results were found for a set of Continental packings:—Reds 93·2, Firsts 83·1, Lightnings 72·5, Hearts 58·4. This appears to be a promising beginning to our work of linking up spinning quality with commercial grading. The number of ends which came down in spinning agree well with the quality ratios.

The apparatus for comparing the bulk to which a standard weight of cuttings is compressed under a known heavy load is shown in the illustration given in this issue (frontispiece). This is a finished apparatus made in the T. R. L. workshops, following experiments with a roughly constructed apparatus. It is proposed to test the suitability of the apparatus for comparing the quality of fibre, as well as cuttings.

In the Chemistry Department some interesting results have been obtained in connection with the exploratory experiments on chemical retting which have been conducted. The action of a considerable number of chemicals has been examined and a rough rule governing their efficacy as retting agents has emerged from the work. The routine analysis of fibre samples continues.

The preparation of the final draft of a catalogue of the books and pamphlets in the Library of the Laboratories is in hand.

Agricultural Research

The harvest of seeds was finished and the fields were cleaned up and ploughed. The weighing of bundles of experimental jute produced at Dacca was completed.

Samples of jute fibre were made ready for spinning tests and sent to the Technological Research Laboratories.

The task of analysing the experimental data gathered during 1940 jute season has been taken on hand. Of the 24 selections included in the first stage trial as many as 21 have out-yielded *D. 154.* In the second stage *capsularis* trial, none of the 12 selections proved better in yield than *D. 154.*

Microscopic examination of the retted stems was continued. It has been observed that the retting is completed in the top-half of the stem by about the eighth day after steeping, but the basal region is so little affected that minute structural details are still visible. The progress of retting, therefore, appears to depend upon the structural development of the stem. Thick stems and stems having thick periderm and well-developed lenticels require a longer time in retting.

The knotty fibre that is produced as a result of apion damage, is an instance of failure of retting at a certain point of the stem. The cortical tissue which develops to repair the injury caused by the apion, protects this point against retting and hence the internal tissues are not dissolved.

Marketing and Transport

Good progress has been made in the preparation of the Second Marketing Report. The preliminary drafts of all chapters are well advanced and it is expected they will be ready for circulation to the Publications Sub-Committee at the end of the month.

The Senior Marketing Officer visited Kendupatna and Danpur, Orissa, on 3rd and 4th November. He attended a meeting of the Kendupatna Co-operative Jute Sales Society and arranged details in regard to the formation of a new sales society at Danpur. He also inspected a quantity of jute at both these stations and in company with the Senior Marketing Officer, Orissa, Messrs. Sinclair Murray & Co 's Manager and the President of the Kendupatna Society compared the model standards of all grades packed last year with the assortment now in force. A visit was paid to the Government Farm at Cuttack, and in consultation with Dr. Badami, Deputy Director of Agriculture, arranged a programme of work for the District Agricultural Staff sent by the Committee to that province to instruct the growers in improved methods of jute cultivation.

Statistics and Information

The relation between the demand, supply and price of raw jute has been investigated. The object of this investigation was to determine the joint influence on price of the size of the crop, the export of raw jute from India and the purchase of raw jute by the mills within the membership of the Indian Jute Mills Association. The analysis was carried out on data for twenty years from 1920-21 to 1939-40. The analysis, however, did not reveal any relationship between the movement of price and the variations of the other three factors.

A convenient method has been devised for the omission or addition of independent variates in multiple regression analysis. This will facilitate the work of finding out the joint influence of a large number of factors on a dependent variate. This method is, therefore, expected to extend the field of investigation into the elasticity of demand for jute.

The first draft of the report on world consumption of jute in 1938-39 and 1939-40 has been prepared. The revised figures for world consumption in 1939-40, though slightly smaller than those given in the September issue of the Bulletin, do not materially differ from the latter. A discussion on the reliability of the figures for stocks of raw jute and jute goods held by the mills is also given in the report. It is expected that the report will be soon ready for publication as a pamphlet.

Further investigation has been carried out into the nature of the trade between India and the U. S. A. A comparative study of the physical volume of the trade between the two countries has confirmed the conclusions which had been previously derived from a study of the value of the trade and which were mentioned in the November issue of the Bulletin.

In response to several queries a note has been prepared on the cultivation of flax and its commercial possibilities in India.

A large volume of information on the use of cotton bags in the U. S. A. has been recently received through the courtesy of the American Consul General in Calcutta and the various departments of the U. S. Government. All this information is being carefully studied with a view to making a detailed investigation into the conditions of the competition between jute and cotton in the U. S. A.

Publicity

The necessary arrangements by the Assam Government having been completed for its reception the Jute Price Dissemination Service has been started in Assam from the 9th December, and is now in full swing.

Work in connection with the preparation of a summarised Bengali version, in draft form, of what may be called the Committee's Triennial Report has been proceeding and is expected to be completed by the end of the month.

This Section for the second time undertook the pulicity of a Committee's publication, the Triennial Report (in English), independent of the Central Government Information Bureau, the first one being the Committee's First Marketing Report. The Report (price Re. 1 or 2s.) was officially released to the public and press on the 10th December, and almost all the important daily papers and periodicals in Bengal, English and Vernacular, have devoted both their news and editorial columns in drawing attention of the public to its contents. At the time of writing this note it is too early yet to estimate the response that the publicity arrangements made here may have had from the press in other parts of India. But, it may be expected that it will not be small considering the fact that except Bengal, Bihar, Orissa, Assam and U. P. the other provinces are not directly interested in jute.

A new feature has been added to the Bulletin from this month, contributed by the Statistics Section, which gives the movement of prices of competitive fibres as well as of the two chief competing fabrics, viz., burlap from jute and osnaburg from cotton. The Bulletin from its next issue is expected to contain another new feature, viz. the comparative prices of jute and cotton bags in the U. S. A., also prepared by the Statistics Section.

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CONTENTS

SUBJECT PAGE

Indian Prices During December 600
Monthly Variation of Exports 602
Production and Stock of Jute Goods 603
Minimum Jute Price Agreement 604
Orders for 26 Million Sand-bags 604
Export Advisory Council Meeting 605
Trade Conditions in Argentine 607
Export Prospects in South America 612
Indian Trade with U. S. A.: Changes Brought about by War 615
U. S. A. Statistics 624
Jute Market in U. S. A.: Meek-Gregory Report on Closer Contact 626
Cotton Baggings for Cotton Bales 627
Jute Industry and Trade in U. K.: Dundee Report ... 629
Index Number of Prices for Jute and Substitutes ... 631
New Uses for Jute: Attempts to meet Canvas Shortage 632
Fibre from Banana Plants 633
Shortage of Textile Fibres in Spain: Use of Esparto Grass 634
Jute Freight Rates 634
Wool Packs from New Zealand Hemp 635
War Risk Rates for Jute 635
Experiments with Sisal Bags 636
Cotton Roads for Bombay: Experiments by I. C. C. C. ... 637
Flax Fibre Cultivation and Preparation 638
Industrial Fibres 644
Effect of War on Jute Contracts: An intersting Case ... 645
Monthly Notes on Progress of Schemes 646
Conversion Table ... ... *Inside Back cover.*

Indian Prices during December

FAIR BUSINESS AT FIXED RATES

THE principal features of the month under report was the Conference held at Delhi from the 4th to the 5th December between reprsentatives of the Government of India and of the jute trade in connection with the fixation of basic minimum prices for loose jute. Until the result of this meeting had been considered by the Indian Jute Mills Association—made public after 10th December, 1940—the market was moderately active with small lots sold at prices rather lower than the agreed minimum with sellers inclined to be weak. The trend of the upcountry market steadied somewhat for a few days but sellers came out and were keen for business at the next basic prices, *i.e.*,

Indian Jat, Middle	...	Rs. 8/-	Bottom	...	Rs. 6/8/-
District, Middle	...	„ 7/-	Bottom	...	„ 5/12/-

with European balers supervised packing receiving a premium above these rates.

Fair business was reported at the fixed rates on the basis of 50/50 assortment. Europeans sold 50/50 at Rs. 9/- and 6/12/- for Middles and Bottoms respectively and a considerable line was done in Indian Jat Tossa at Rs. 7/12/- and 6/- on the basis of 40/60. Business continued in fair volume for a few days but was suspended with the approach of the Christmas holidays and at the close of the period the market was inactive with quotations at the agreed minimum.

PUCCA BALES

Early in the month mills were reported to have bought a fair quantity of Outport Tossa at Rs. 27/- ready and Rs. 28/- December/January, Lightning 2/3 at Rs. 31/- January/February, Dundee Daisee 2/3 at Rs. 33/- January. This business served to steady the market but this was not sustained and with little offering from overseas a quiet tone developed. As the month progressed rates were normally firm in sympathy with the Futures Market, but there was better actual business on offer to test the strength of the market and save for special lots at rates quoted below there was little general trading.

Special Firsts were bought by mills at Rs. 46/- per bale. First 2/3 changed hands at prices from Rs. 36/- to 38/-.

Mills bought cuttings N/C at Rs. 10/- per bale.

Mixed Cuttings were done at Rs. 13/- per bale.

This market at the end of the month was dull and inactive.

HESSIANS

At the opening rates were fairly steady though only nominal business was passing. On 2nd December, the rates were as follows:

		Ready	*December*	*Jany./Feby.*
9 porters	...	12/8/-	12/8/6	12/8/-
11 porters	...	16/9/-	16/10/-	16/-

They inclined easier during the first ten days but with a fairly substantial demand developing, particularly for near 11 porters, gained strength, and on 13th December the prices were steady at

		Ready	*December*	*Jany./March*
9 porters	...	12/13/-	12/13/-	12/8/-
11 porters	...	17/1/-	16/11/-	16/-

The demand was quickly satisfied and buyers becoming reserved showed little interest and this had a depressing effect on rates. Before the Christmas recess, however, there was a slight revival—prices packed up and for the remainder of the month, though little trading was done they retained a steady trend, closing as follows:—

		Ready/Dec.	*January*	*Feby./March*
9 porters	...	12/12/-	12/12/6	12/6-
11 porters	...	10/18/6	16/13/-	15/14/-

HEAVY GOODS

In sympathy with hessians, the bag market opened with rates at a fairly steady level. With little or no enquiry however prices slid down the scale reflecting the general trend of the market. Only nominal business was reported during the month in B. Twills, Heavy Cees, Liverpools and Cornsacks.

Rates at different periods during the months were:—

		2-12-40	*10-12-40*	*24-12-40*	*30-12-40*
B. Twills, Dec./Ready		32/2/-	32/-	32/2/-	32/-
Liverpool	„	37/2/-	37/-	36/12/-	36/10/-
Cornsacks	„	33/-	33/12/-	32/12/-	32/8/-

Monthly Variation of Exports

JUTE FROM INDIA

(Figures are in 1,000 tons)

MONTH	1940	1939	1938
RAW JUTE			
July	8·1	21·0	43·0
August	11·3	37·2	40·9
September	10·8	45·0	66·6
July-September	30·2	103·2	150·5
JUTE MANUFACTURES			
July	70·4	75·8	84·2
August	80·8	104·9	87·0
September	85·3	101·3	86·2
July-September	236·5	282·0	257·4
RAW JUTE AND JUTE MANUFACTURES			
July	78·5	96·8	127·2
August	92·1	142·1	127·9
September	96·1	146·3	152·8
July-September	266·7	385·2	407·9

Exports of raw jute in September declined slightly after a short revival in August, although a seasonal rise was expected at this time of the year. Exports of jute manufactures continued to rise in September, although there was a seasonal fall in the corresponding month of the previous two years. On the whole, the month of September registered a definite improvement for jute manufactures and a definite set back for raw jute. The net result was a further rise in the total exports of raw and manufactured jute in September.

Production and Stock of Jute Goods

NO CLOSED WEEK NEXT MONTH

MANUFACTURE of jute goods during December, 1940 by the mills reporting to the Indian Jute Mills Association showed an increase of 11 per cent. as compared with the production of the previous month. The details of production during December, 1940 are given below :—

Sacking Bags	(in 1,000s)	31,640	or	35,855	tons
Hessian Bags	(„)	17,340	„	4,475	„
Sacking Cloth	(in 1,000 yds.)	5,918	„	2,492	„
Hessian Cloth	(„)	101,452	„	26,940	„
Others	. . . .			3,368	„
Total	. . . .			73,130	„

It is understood that the Committee of the Indian Jute Mills Association have decided that there should be no closed week during the month of February but that the mills would close during the week ending March 15.

Though there was an increased production during December, the stocks at the end of the month showed a further decrease indicating a higher consumption as compared with the previous month. The **stocks of manufactured goods** (cloth & bags) as reported to the Jute Mills Association by its members are given below :—

Commodity	End of December				End of November			
	Million yds.		Thousand tons		Million yds.		Thousand tons	
	1940	1939	1940	1939	1940	1939	1940	1939
Sackings	144	118	62	50	143	109	61	46
Hessians	219	359	53	83	220	366	51	86

Minimum Jute Price Agreement

LOOPHOLES NOW CLOSED

A notification issued to members of the I. J. M. A. and to the other Associations connected with the jute industry states that the agreement regarding minimum prices has now been made a bye-law of the Association, reports the *Capital* of January 3, 1941. Any breach of this bye-law will render members liable to the consequences set out in chapter XIII of the Articles of the Association.

This places matters on a more satisfactory footing for everybody concerned. Most loopholes have been closed and there is no longer any room for misunderstanding. The intentions are clear and evasion cannot now be excused on the pretext that the recommendations were not explicit enough.

Orders for 26 Million Sandbags

An order from the Government of India for 26,000,000 sandbags has, it is understood, been received by the Indian Jute Mills Association. The delivery of the order is to be executed in February and March. The quantity of raw jute required for the manufacture of these bags is slightly above 27,000 bales.

Export Advisory Council

CALCUTTA MEETING

A proposal to send trade delegations to various countries with which it is possible to enter into trade negotiation or to expand existing trade, was one of the subjects considered at a meeting of the Export Advisory Council in Calcutta on January 8.

Sir A. Ramaswamy Mudaliar, Commerce Member, Government of India, presided.

The opinion, it is said, was somewhat divided as to whether such trade delegations would fulfil any useful purpose in the present world conditions when every Dominion and other Allied countries were engaged in war efforts. On the other hand, it was pointed out that at the time when imports from certain foreign countries had either stopped or were for various reasons severely curtailed, the time was suitable for certain industries to get firmly established in the country, so that when at the end of the war foreign competition revived they might be in a position to meet it before the war.

There appeared to have been general agreement that, the sending of trade delegations might serve a useful purpose and that this was necessary. It was, however, pointed out, that care should be taken before sending such a delegation to find out whether there was a reasonable prospect of the export trade being enlarged, and whether the Government of the country concerned would welcome such a trade delegation at the present juncture.

There seemed to have been unanimity of opinion that such trade delegations should be under Government auspices and composed of some Government officials, so as to give them a status of officially supported delegations, thus enabling them to obtain necessary facilities in the countries visited.

The suggestion was also made that if trade delegations were sent out under such conditions, commercial bodies would be willing to co-operate with the Government and they would meet the cost of the commercial sections of the delegations.

SURPLUS PRODUCTION

Surplus production of certain commodities and how that might be utilised and steps taken to prevent a fall in prices were also considered. Opinion of various commercial organisations had been invited on the subject. It was agreed that with reference to some of the commodities, such as wheat, the problem had not arisen. There was, however, a general support for the idea that wherever possible some kind of restriction might be tried.

The question of cotton and coffee was considered in this connection. It was suggested by some of the members that in case of any acute situation arising with reference to cotton, following the precedent of jute, the organised textile industry which had to some extent enjoyed the benefit of protection, should come more actively into the picture in connection with any scheme for disposal of surplus cotton. The matter was already under Government review and they had undertaken further investigation.

The Export Advisory Council was adjourned and will meet again in Madras towards the middle of April.

Trade Conditions in Argentine

ADVERSE TRADE BALANCE

THE following is the full text of Mr. W. J. Jackman's Monthly Report, No. 35, on conditions affecting the Jute trade in the Argentine Republic :—

THE economic situation of the country is steadily growing worse as its share of international trade declines. The value of Argentine exports in the month of September was the lowest for any one month in more than a quarter of a century. The value was only $61,233,000 paper pesos, which is less than the value of imported goods by $50,604,000 pesos. The situation now is that for the first nine months of the current year the normal export balance of Argentine trade has been converted into an import balance of $22,826,000 pesos. For the corresponding period of last year there was an export balance of $191,983,000 pesos.

The immediate cause of this drastic change is the fact that the Republic has been cut off by the war from European markets which normally take about half her agricultural and pastoral products, and in spite of her efforts to develop markets elsewhere in which to dispose of her exportable surpluses, the results have been very meagre.

The adverse trade balance as shown above is of course intensified by the serious decline in prices of exported commodities and the increase in prices of imported manufactured goods.

The situation would doubtless have been substantially worse than it is but for the fact that in recent years there has been developed in the Republic a manufacturing industry which enables her to supply her own needs to a great and growing extent. But nevertheless a wide foreign market for her surplus agricultural and pastoral production is still an essential for her economic well-being.

As an outstanding example of what happens when access to foreign consuming markets is cut off, there is the case of the Argentine maize crop, with a surplus of nearly 8 million tons, of which 6¾ millions are unsold and almost unsaleable. To save the growers from bankruptcy the Government is buying all the maize offered at $4.75 pesos per quintal. Its current value on the Grain Exchange is $3.10 per quintal. Most of the crop is naturally being sold to the Government, who may eventually have to destory a substantial part of the grain to prevent dissemination of noxious insect pests from the thousands of field cribs in which it is stored.

Unemployment from lack of movement of the stored grain is a serious indirect problem. Lack of need for bags for the grain is another disturbing factor in trade.

The problem of unemployment is one which is engaging the serious attention of the Government, and it is understood that some perhaps drastic proposals will be laid before Congress in the near future for the financing of a programme of public works adequate to meet the needs of the situation as it develops.

Crop News

The weather during the month of October was generally favourable for the field crops, which although somewhat backward, due to cooler temperatures than usual for the season, are otherwise in a condition described in official reports as from "Good" to "Very Good."

The second official estimate of the areas planted to the principal grain and seed crops other than maize, increases the total for the six crops from 13,082,300 hectares to 13,277,500 hect. The wheat and linseed areas are still below those of last season and below the five-year average.

The third official estimate of the volume of the maize crop reduces the total by 265,000 tons to 10,375,000 metric tons, with a further shrinkage probably due to the action of weevils and other pests during the unusually long period in which the grain is being held unshelled in cribs this season.

The new maize crop is being planted under good conditions, there being ample soil moisture for germination and the weather being favourable. A smaller area is foreseen.

The third official estimate of the 1939-40 crop of rice puts the total at 97,000 tons, which is 3,932 tons smaller than the preceding crop. The five-year average from 1934-35 to 1938-39 was 51,095 tons.

Official figures of the stocks of wool on October 1 show a total of 38,068 metric tons, which compares with 42,564 tons a month earlier.

Trade estimates of the wool clip of the new season indicate a production of about 180,000 tons, which after adding the above stocks and deducting 30,000 tons for local consumption, would leave about 188,000 tons available for export.

The Jute Trade

There is little change to report in market conditions. The prospects for the new grain crops are good, but the critical period is only now being entered upon, so the tendency is to wait and see what the weather does before definitely contracting for new bag supplies.

The meat packing plants are suffering from the lack of export activity. Shipments in recent weeks have been dwindling, and whilst it is hoped that the negotiations which have been proceeding for some time with Great Britain will result in further purchases of between 500,000 and 600,000 tons of meat, mostly beef, no agreement appears to have yet been arrived at.

Alpargata factories continue to be normally active, with a small surplus production going into export.

Whilst private undertakings in the building trade show considerable activity, they are mostly enterprises being completed, and comparatively few new ones are being commenced at the present time, for various reasons, one of which is that construction may be cheaper later on.

Jute Prices

There is no change from the list of prices given in the last report.

Following the increase in prices as shown in that report, a memorandum was sent to the Minister of Agriculture by the Confederation of Rural Societies of Buenos Aires and the Pampa complaining that an increase had taken place in the price of bags, and that judging by the speculation taking place quotations would go still higher. Dealers, it was said, were already travelling over the country, inducing the farmers to sign orders for bags for the new grain crop. The Minister was urged to take measures to stabilise the price of bags. Last week the Minister announced that an investigation would be made of the cost price and the stocks available of jute bags, in order to ensure regular supplies at reasonable prices for handling the next crop.

Importations

Three cargoes arrived from *India* during October, containing the following:

Per *"Skagerak"*	Per *"Skjelbred"*	Per *"Teesbank"*
11,437 bales Canvas	8,762 bales Canvas	11,062 bales Canvas
100 ,, Bags	4,949 ,, Jute	3,756 ,, Jute
	113 ,, Twine	125 ,, Yarn
	20 ,, Yarn	

From the *United Kingdom* came : 75 bales Fabrics and 13 bales Yarn. And from *Brazil:* 32 bales Yarn.

Distinguishing Colour for Bag Twine

By a Decree issued at the end of October, it was officially ordained that thread or twine used for closing jute bags or for darning them or patching them shall be coloured blue to distinguish them.

They must be totally coloured blue in order to enjoy exemption from customs duties.

The same Decree also enjoins the Ministry of Agriculture to prevent the manufacture in the country of ropes made from the said blue coloured thread or twine.

Brazilian Jute

According to a commercial bulletin put in circulation by the Brazilian Embassy in the Argentine, in the Brazilian State of Bahia wild plants are at present being used in the manufacture of paper and fibre for textiles. The industrialization of *Caroa* (Brazilian jute), says the Bulletin, signifies a great step forward in the economy of that State, and as a result other fibres have begun to be used. *La Guachuma,* which comes from various zones of the Bahian interior, and the *Carrapicho* are already employed in a paper factory. The pulp of *Carrapicho* is used for paper making, and the fibre after preparation is sold in considerable quantity to a number of factories in the State, which use it in making textiles.

Export Prospect in South America

POSSIBLE MARKETS FOR JUTE GOODS

THE countries of South America are at the present moment in the eyes of all who have aspirations of increasing their export business, states the *Jute Review* of October, 1940. South America like all other countries, is hard hit by the loss of the European markets and like all other countries is seeking to sell its produce and surplus productions on the open markets of the world. This is not quite as easy for them as it might seem. Half of the world cannot consume the same amount of coffee, fruit, meat and other raw materials as the whole world, consequently the foreign exchange markets become dull and the volume of trade declines considerably. It is unreasonable, therefore, to think that one can just send over a traveller and expect him to cable huge batches of orders, even although one might be aware that there is a big demand for jute or jute goods. All who intend doing business in the markets of South America should first investigate the possibilities from every angle and conduct a thorough research, obtaining all the information that is possible, before launching out on a selling campaign. In point of fact, South America presents many opportunities to live exporters who are prepared to go to the trouble and expense of conducting market research. Great Britain is doing all in her power to alleviate the difficulties that might arise out of lack of exchange and other troubles. Trade pacts are being concluded and in certain countries quotas have been fixed that are quite favourable to British exporters.

In order to give some idea as to the extent of the trade in jute and jute goods done by various less important countries of South America, with whom increased export business might be expected, latest available import figures of these individual countries are given below :

Sack Imports of Dominica

This country imports chiefly jute sacks and in the years 1937 and 1938 the total imports amounted to 4,251,527 kg. and

5,150,957 kg., amounting to $440,296 and $510,081 respectively. Details of the chief suppliers, etc., are as follows:—

Country	1938		1937	
	Quantity	Value	Quantity	Value
	kg.	$	kg.	$
British India ...	4,905,338	466,952	3,923,430	376,624
U. S. A. ...	139,988	19,705	124,839	22,479
All Others ...	105,631	23,424	203,258	41,166

All other countries comprise chiefly Great Britain, France, Belgium, Holland and Germany, for which no separate figures are issued.

Imports of Jute Goods into Chile

Imports of jute goods and materials of vegetable fibres into Chile during the year 1938 amounted to 4,043,094 kg., worth $2,052,623, as compared with 5,085,914 kg., worth $3,187,426 imported in 1937. These imports consisted mainly of jute cloth and sacks. Countries of origin with quantities and values of jute goods are given below:—

Country	1938		1937	
	Quantity	Value	Quantity	Value
...	kg.	$	kg.	$
India	2,184,049	1,352,014	3,304,747	1,470,289
Belgium ...	3,193	4,854	8,786	13,323
France ...	514	537	2,169	3,010
Great Britain ...	11,644	9,975	89,613	71,174
Germany ...	8,411	15,593	7,902	15,716
Holland ...	1,030	1,807	...	...
U. S. A. ...	6,076	8,125	37	54

The balance is made up of imports of vegetable fibres from South Africa, Mexico, Cuba, Java and Guatemala.

Bolivian Jute Imports

Imports of raw jute into Bolivia, during 1938 amounted to 273 kg., valued at 475 bolivas. Imports of jute sacks during the same year came to 1,143,174 kg., valued at 433,609 bolivas. Of this total 729,121 kg., worth 324,277 bol., came from the United Kingdom; 291,583 kg., worth 73,957 bol., from India and 74,088 kg. worth 16,618 bol., from Holland. In this country the import business in jute sacks is done mainly with Great Britain.

Imports of Sacks into Venezuela

The bulk of the imports of jute goods into venezuela come from India, although Great Britain has quite a good share of the business. The principal countries of supply were as follows :—

—	January/June 1938	
	Quantity	Value
India	67,601 kg.	19,137 Bol.
United Kingdom	16,199 „	11,538 „
U. S. A.	1,086 „	1,192 „
Belgium	639 „	376 „

Brazil increases Jute Imports

According to the Special Correspondent of the *Jute Review* economic outlook of Brazil is becoming exceedingly grave, owing to the loss to that country of its export markets in Scandinavia and other ports of Europe. He states that Brazil's main exports have declined by as such as 50 per cent. and that in order to maintain a satisfactory trade balance the Brazilian government are conducting an enquiry into the best methods to adopt under the circumstances.

Certain raw materials, however, are required for expanding home industries, of which jute is perhaps one of the most important. Imports of jute have increased considerably since last year and it is quite likely that still further increases in the purchase of jute will be made to ensure that stocks are maintained.

Imports of raw jute in Brazil during the first three months of 1940 increased by more than 100%, proving that that country is taking the precaution of keeping her home industries well supplied. Jute manufactures do not feature in the import list at all and have not to any great extent since the Brazilian jute mills went into full production in 1936.

During the months of January, February and March the total imports of raw jute amounted to 16,478 tons valued at £266,000 (gold) as compared with 7,662 tons valued at £107,000 in the same three months of 1939. In the corresponding period of 1938, 1937 and 1936 the amounts imported were 9,008 tons, 7,809 tons and 7,647 tons respectively.

Indian Trade with U. S. A.

CHANGES BROUGHT ABOUT BY WAR

[*Sometime ago, the Indian Central Jute Committee received information through the Indian Jute Mills Association that certain cotton interests in the U. S. A. were sponsoring a proposal for a tariff on the imports of jute and burlap into the U. S. A. In justification of such a proposal it was alleged that export from the United States to India of manufactured articles of every description had greatly declined and therefore the United States should retaliate by restricting the imports of jute and burlap from India. The following note prepared by the Statistics and Information Section of the Committee endeavours to examine how far this allegation has any foundation in fact. Some of the conclusions arrived at, in this note, may also have some topical interest, in view of the recent publication of the Meek-Gregory Report on the prospects of the Indian export trade in U. S. A., and the calculations contained in it may provide some sort of a quantitative measure of the intractable factors, which apparently impede the efforts to expand the export trade to U. S. A. Incidentally, this study brings out the important fact, which is apt to be overlooked in current discussions on this subject that the deterioration in the trade position of India vis-a-vis U. S. A. began long before the outbreak of the present war.—Secretary, Indian Central Jute Committee.*]

ONE characteristic feature of the trade between India and the U. S. A. is that the balance of trade has always been in favour of India. In recent years, however, the favourable balance of trade has been considerably reduced, as may be seen from the following table which gives the trend of the turnover of trade between India and the U. S. A.

TABLE 1

Indian Trade with U. S. A.

(Value in crores of rupees)

Year	Exports from India	Imports into India	Balance of Trade
Average of 1924-25 to 1928-29	36·5	17·1	19·4
1933-34 ...	14·1	7·2	6·9
1934-35 ...	12·9	8·4	4·5
1935-36 ...	16·1	8·9	7·2
1936-37 ...	18·4	7·4	11·0
1937-38 ...	18·3	12·9	5·4
1938-39 ...	13·9	9·8	4·1

The average balance of trade in the post-crisis period is 6·5 crores which is far below the average balance of 19·4 crores for the pre-crisis period. The tendency of the balance of trade since 1937-38 has been to come down steadily to a low level*. The reasons for this decline may be found in the change in the volume of trade as well as in the change in the parity of the export and import prices.

The investigations which follow have been based on the actual volume of trade, wherever available, and on the quantum or physical volume of trade where the actual volume cannot be determined. Necessary adjustments for the separation of Burma have been made in all cases by the method of chain index.

VOLUME OF TRADE

The relative changes in the import and export trade are shown in Table II. The movements of import and export prices are also given for comparison. The index of prices has been compiled from the unit values of important commodities entering into the trade between India and the U. S. A.

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*As the balance of trade is the difference between the export and import values, the figures for the balance of trade since 1937-38 are fairly comparable with those of previous years, despite the fact that Burma has been excluded from India since 1937-38

TABLE II

Quantum Index and Price Index of the Trade between India and U. S. A.

(Base : Average of 1924/25-1928/29 = 100)

Year	Quantum Index		Price Index	
	Imports into India	Exports from India	Imports	Exports
1933-34	64	80	66	49
1934-35	71	71	69	49
1935-36	73	88	71	50
1936-37	70	100	69	51
1937-38	128	93	65	54
1938-39	95	80	66	49

The volume of trade since 1933-34 declined on the whole as compared with the base period. At the same time prices of both import and export commodities had fallen to a low level. As a consequence, the balance of trade was also reduced.

During the recovery period between 1933-34 and 1936-37 Indian exports to the U. S. A. gained more than the corresponding imports of U. S. goods into India. Since 1937-38, however, there has been a change in the movement of the trade in the reverse direction. Compared to the base period Indian exports fell by 7 per cent in 1937-38 and by 20 per cent in 1938-39. Indian imports from the U. S. A., however, increased 28 per cent in 1937-38 and fell by 5 per cent only in 1938-39.

The movement of prices also gives a picture favourable to the U. S. A. During the period under consideration import prices never fell as much as export prices. In other words the U. S. A.

had a better term of trade in this period than she had between 1924-25 and 1928-29.

It appears, therefore, that since 1937-38 Indian export to the U. S. A. have been definitely losing ground *vis-a-vis* Indian imports from the U. S. A.

IMPORT OF MANUFACTURED GOODS AND EXPORT OF RAW AND MANUFACTURED JUTE

India imports mostly manufactured goods from the U. S. A. Her exports to the U. S. A. consist chiefly of raw jute and manufactured jute goods which cover more than 50 per cent of the total value of the export. The trade in these two classes of commodities is likely to have a major influence on the movement of the total trade between India and the U. S. A. The relative movements of the import of U. S. manufactures and the export of Indian Jute are shown in the following table.

TABLE III

Index Number of Volume of Trade

(Base : 1933-34 = 100)

Year	Import of manufactures from U. S. A.*	Export of Jute to U. S. A. (Raw, bags and cloth)	% ratio of (1) to (2)
	(1)	(2)	(3)
1933-34	100	100	100
1934-35	126	95	133
1935-36	123	127	97
1936-37	133	162	82
1937-38	179	156	115
1938-39	138	107	129

*Based on manufactures covering about 80 per cent of total value of all imports from the U. S. A.

Between 1933-34 and 1937-38 the imports of U. S. manufactures into India rose continuously except for a minor setback in 1935-36. During the same period exports of raw and manufactured jute followed a zig-zag course. In the post-crisis period the Indian demand for U. S. manufactures was on the whole sustained at a fairly high level, reaching in 1937-38 a maximum of 79 per cent above the demand for 1933-34. The U. S. import of Indian jute rose to a maximum in 1936-37, being 62 per cent more than the import in 1933-34. Col. (3) of Table III shows that compared to 1933-34 the relative increase of imports from the U. S. A. was higher than that of exports to the U. S. A. for three years out of five. In 1938-39 the imports of U. S. manufactures fell by 23 per cent as compared with the maximum imports in 1937-38 but they were still 38 per cent more than the imports in 1933-34. The corresponding exports of Indian jute to the U. S. A. fell by 34 per cent as compared to the maximum exports in 1936-37, and they exceeded the 1933-34 figure by 7 per cent only. Thus up to a few months prior to the out break of war the position of U. S. manufactures in India was on the whole better than that of Indian jute in the U. S. A.

TRADE ON THE EVE OF THE WAR

We shall now consider the movement of trade during the period immediately preceding the outbreak of war. The following table shows the total volume of trade for the five months April to August.

TABLE IV

Index Number of Volume of Trade, April to August

Base : April to August, 1937 = 100

Year	Import of Manufactures from U.S.A.*	Export of Jute to U. S. A. (raw, bags & cloth)
1937	100	100
1938	81	57
1939	116	55

The contrast between the two series of index numbers is indeed striking. Just before the war India imported U. S. manufactures more than she did in the previous two years. Even the import in the first five months of the record year 1937-38 was exceeded by the

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*Based on quantum of all imports *minus* raw cotton.

corresponding import in 1939-40 by as much as 16 per cent. On the other hand, the U. S. import of Indian jute just before the war was nearly half of the corresponding import in 1937. The figures for the five monthly period show that in 1938 there was a set back in the trade between India and the U. S. A. In 1939, however, there was a substantial recovery in U. S. trade in India which, for the five-monthly period, increased by 43 per cent. But the export of raw jute and jute goods from India to the U. S. A., which had seriously declined in the five-monthly period of 1938, continued to fall in 1939. It is clear, therefore, that on the eve of the war U. S. manufactures made a considerable headway in the Indian market, while raw and manufactured jute produced in India did not receive much attention from the U. S. consumers.

TRADE DURING THE WAR

Figures published by the U. S. Department of Commerce have been used for the investigation of the trade between India and the U. S. A. for the first year of the war. The percentage changes given in the following table have been calculated from quantum indices in the case of total export and import and from actual quantities imported from India in the case of raw jute and burlap.

TABLE V

Percent Change in the Volume of U. S. Trade with India

	1939-40 compared with 1938-39		
Month	Total export to India	Total import from India	Import of raw Jute and burlap from India
September	+104·2	+25·5	-5·3
October	+80·0	-19·0	-48·1
November	+89·4	+41·1	+45·9
December	+134·4	-13·2	-37·4
January	+139·0	+43·2	+78·7
February	+138·9	+131·2	+178·3
March	+22·2	-13·6	-31·1
April	+61·7	-16·4	-37·1
May	+75·5	-12·0	+10·2
June	+32·8	-2·1	-7·8
July	+99·1	+22·0	+70·4
August	+28·3	+1·1	-2·5
Total	+74.2	+12·2	+8·6

The total valume of U. S. exports to India for the first year of the war increased by 74 per cent as against an increase of 12 per cent in the U. S. import of Indian goods and an increase of only 9 per cent in the U. S. import of raw jute and burlap from India. In the same period the *total* volume of all exports of U. S. merchandise increased by 24 per cent and the corresponding volume of all U. S imports for consumption* increased by 10 per cent.

Thus the *total* export and import trades of the U. S. A. during the first year of the war increased in the ratio 2·4 : 1, which was quite favourable to the U. S. A. In her trade with India, however, the U. S. A. secured a much more fovourable position for herself as the ratio in this case was roughly 6 : 1

The figures for the individual months in Table V also give a picture which is very much favourable to the U. S. A. Exports to India increased substantially throughout the period under consideration. But imports from India actually declined in six months out of twelve. Imports of jute and burlap also declined in seven months and to a greater extent than did general imports.

Thus in the first year of the war India considerably increased her consumption of U. S. goods. But the U. S. A. did not increase to the same extent her consumption of Indian goods in general and and of raw and manufactured jute in particular.

U. S. TRADE WITH INDIVIDUAL COUNTRIES

We shall now make a comparative study of the U. S. trade with different countries of the world. In the following table only a few important countries have been taken and they have been divided into two groups, viz. those with which the U. S. A. has trade agreement in force and those with which the U. S. A. has no trade agreement.

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*Volume of general imports is not available, hence volume of imports for consumption has been taken. The former includes commodities *entered* into bonded customs warehouses for storage, while, the latter includes commodities *withdrawn* for consumption from bonded warehouses. A rough estimate shows that the valume of general imports probably increased by some 12 per cent.

TABLE VI.

United States' Trade with Individual Countries
Percentage change in value

	1939 compared with 1938 January—December		1940 compared with 1939 January—June	
	Exports including re-exports	General imports	Exports including re-exports	General imports
Trade-Agreement Countries:				
United Kingdom.	-3·0	+26·6	+56·1	+7·7
France (Proper)	+35·8	+15·5	+258·6	-9·1
Netherlands (Proper) ...	+0·1	-8·0	...	...
Netherlands West Indies ...	-10·3	-4·3	-32·5	+26·8
Belgium ...	-16·1	+51·8	-25·4	-23·4
Sweden ...	+50·5	-6·4	-19·2	-12·6
Canada ...	+5·5	+30·7	+57·0	+24·0
Colombia ...	+25·5	+0·8	+12·9	+9·2
Brazil ...	+29·8	+9·8	+83·1	-3·4
Cuba ...	+7·0	-0·7	+18·9	+23·4
Non-Agreement Countries:				
India (including Burma) ...	+31·1	+14·1	+80·9	+65·9
Germany ...	-55·8	-18·7	-99·6	-89·2
U.S.S.R. ...	-18·7	+4·1	+109·9	+0·4
Italy ...	+1·0	-3·2	+97·7	+16·4

TABLE VI—*contd.*

United States' Trade with Individual Countries

Percentage change in value

	1939 compared with 1938 January—December		1940 compared with 1939 January—June	
	Exports including re-exports	General imports	Exports including re-exports	General imports
Non-Agreement Countries:				
Egypt ...	+4·9	+47·2	+79·4	+33·3
Union of South Africa ...	−1·4	+79·7	+21·4	+52·8
Australia ...	−10·8	+71·7	+46·7	+33·5
China ...	+60·7	+30·8	+83·2	+70·0
Japan ...	−3·4	+27·2	−3·7	+8·3
Philippine Islands	+15·7	−2·5	+17·1	−6·9
Argentiana ...	−18·1	+52·1	+132·1	+48·4
Mexico ...	+34·1	+14·9	+11·4	+43·2
Spain ...	+118·0	+11·5	+204·5	+35·2

It will be noticed that in 1939 the U. S. A. had a more favourable trade with India than with most of the other countries listed in the table. In 1939, the U. S. trade with thirteen trade-agreement countries, which took 83 per cent of the total U. S. exports to all trade-agreement countries, was definitely less favourable than the U. S. trade with India. The trade agreement between the U. S. A. and the U. K. came into force at the beginning of 1939. The trade between the two countries in 1939, however, was decidedly unfavourable to the U. S. A. as compared with the previous year.

In the first half of 1940, the U. S. A. improved her trade with several countries including the U. K. But there were still a number of countries, both in the trade-agreement and non-agreement groups, where the U. S. A. could not make as much headway as she did in India.

It appears, therefore, that although the U. S. A. has no trade agreement with India yet she has derived more benefit from India than from many trade-agreement countries.

U. S. A. Statistics

INCREASED IMPORT OF JUTE

IMPORTS of jute, jute goods and other fibres into the U. S. A. as published in the *Daily Mill Stock Reporter* are given below :—

(Figures are in tons)

Commodity	August 1940	September 1940	January—September	
			1939	1940
Jute, Raw ...	741	1,497	32,813	38,210
Jute Butts ...	74	105	376	1,994
Burlap (Hessians)	11,115	25,001	148,876	170,093
Jute Bags and Sacks	607	837	9,504	11,581
Sisal and Henequen	13,579	13,778	79,263	114,039
Manila Hemp ...	4,674	3,940	29,427	41,184

HESSIAN STOCK AND CONSUMPTION

Hessian stock and consumption figures of the U. S. A. excluding the Pacific Coast business, as reported by the Indian Jute Mills Association are given below, the figures being in millions of yds. :—

	October		November		December	
	1939	1940	1939	1940	1939	1940
Stock	221	261	240	253	264	259
Consumption	73	71	63	57	53	53

NEW YORK PRICES

Average prices of jute and a few substitutes are given below. Some of these figures have been supplied by the U. S. Department of Labour and the rest have been calculated from the daily quotations published in the *Daily Mill Stock Reporter* of New York.

Commodity	Unit	Sept. 1940	Oct. 1910	Week ending in			
				Oct. 12	Oct. 19	Oct. 26	Nov. 2
Jute raw, Medium grade ...	Cents per lb.	4·8	4·5	4·5	4·5	4·5	4·5
Hemp, Manila ...	,,	6·1	6·5	6·5	6·5	6·5	9·0
Sisal, Mexican ...	,,	3·9	3·2	3·0	3·0	3·0	3·0
Binder Twine ...	,,	8·3	8·3	8·3	8·3	8·3	8·3
Rope, pure Manila (¾ inch or larger) ...	,,	15·9	15·5	15·5	15·5	15·5	15·5
Kraft paper No. 1 (unbleached) ...	,,	3·4	3·4	3·4	3·4	3·4	3·4
Burlap							
8 oz. × 40″ ...	Cents per yd.	5·3	5·6	5·5	5·6	5·6	5·7
10½ oz. × 40″ ...	,,	7·1	7·3	7·3	7·4	7·3	7·4
Osnaburg							
36″, 2·85 ...	,,	6·3	6·8	6·8	6·8	7·1	7·1
40″, 2·05 ...	,,	8·9	9·3	9·3	9·3	9·4	9·4
Fertiliser Bags							
Jute, 100 lb. ...	Cents per bag	8·2	8·4	8·4	8·4	8·4	8·5
,, 200 lb. ...	,,	12·0	12·4	12·4	12·5	12·4	12·5
Cotton, 100 lb. ...	,,	8·0	8·7	8·7	8·7	9·0	9·0
,, 200 lb. ...	,,	15·4	16·1	16·1	16·1	16·3	16·3

Jute Market in U. S. A.

MEEK-GREGORY REPORT ON CLOSER CONTACT

A number of questions relating to the jute trade were discussed by Sir David Meek and Dr. Gregory with members of the Burlap and Jute Associations in America and are dealt with in some detail in their Report, which has recently been released.

The discussions ranged over a wide field, but the main points brought out were:

(*a*) matters relating to communications,

(*b*) the production by Calcutta mills of jute products formerly supplied by Dundee and some continental countries,

(*c*) the possibility of the introduction of new jute fabrics in the Calcutta manufacture,

(*d*) the proposal that the Calcutta jute mills should adopt a definite programme of "promotional" effort on behalf of their products in the U. S. A. and

(*e*) the necessity for closer contact on the part of the manufacturers in India with the U. S. A. market.

As regards the first point the complaint was that the cables from Calcutta were delayed to such an extent that it was difficult to do business on the price quotations when they were received in America. The difficulty had been greatly aggravated since the beginning of the war and the complaint was made by all the members of the various Associations. The Trade Commissioner, New York, has already taken up the point actively with the authorities in India and it is hoped that some solution of the difficulty will be found possible.

The trade proposed that Calcutta should take up the question of the supply of those classes of goods formerly sent to the U. S. A. from Dundee and the Continent, the suggestion being that Dundee is now fully occupied with home requirements and, of course, continental supplies have been cut off. This is a matter which would naturally be examined by the experts if the possibility of the introduction of new jute fabrics is followed up by the Calcutta interests. It may, however, be noted that it would probably involve the setting up of new machinery in Calcutta at a time when it may be impossible to obtain such new machinery.

It may be mentioned in passing that the Burlap import trade from Europe, of which the United Kingdom had about half, was worth 7 million dollars in 1937, and that jute carpets and rugs were imported in the same year to the value of 600,000 dollars, the supplies coming almost entirely from Italy, Belgium and France.

Cotton Baggings for Cotton Bales

According to a report published in the Daily Mill Stock Reporter *of 29th October, 1940 the Lane Cotton Mills of New Orleans, La., is quoting 70 cents per pattern on three-quarter pound United States standard cotton bagging, f. o. b. New Orleans. The bagging is put up at 100 patterns to the bale and a pattern comprises two pieces of three yards each. The Company reports that more than 16 million yards of such bagging has been sold since it was first introduced a number of years ago. The Company also states that more than six million yards will be sold this season.*

Some of the members of the Association were not inclined to be very enthusiastic as to the possibility of introducing new jute fabrics. One member said that a certain continental country, for which he had been the agent, had endeavoured to introduce new fabrics mainly for household furnishings but had met with little success.

The remaining points were stressed strongly by the members. They were of the opinion that "promotion" for jute manufactures was urgent and essential. They dwelt on the strength of the competition from cotton and paper and emphasised the importance of "promotion" in the sale of all goods in America. Such "promotion" in their view, should be financed by the jute mills in India.

The members also felt that Calcutta should maintain much closer contact with such an important market as U. S. A. and their specific suggestions were that

(1) the manufacturers in India should visit America frequently to study the requirements of and changes in the market for their products

(2) the American market was sufficiently large to justify the employment by the manufacturers of a special technical officer in America who would form a liaison between them and their customers.

Sir David Meek and Dr. Gregory also saw representatives of bag manufacturing concerns which use cotton and paper as well as jute and were given various reasons for the growing use of the substitutes. Price is generally the main factor but not always the only one. For example, in the case of bags for onions the use of jute bags is rapidly disappearing in favour of open mesh paper bags, because the latter can be made in bright colours which show up the onions to advantage. This is only given as a small example. Sir David Meek and Dr. Gregory are of the opinion that continuous contact with the bag making industry by a Calcutta expert would probably justify the necessary expenditure. It is an experiment that is worthy of serious consideration.

Jute Industry and Trade in U. K.

DUNDEE REPORTS

THE position of the jute industry during September did not improve and there were no signs of better conditions coming along, states the *Jute Review* of October, 1940. In the circumstances prevailing, buyers cannot be blamed for purchasing only sufficient to meet their immediate requirements. A traveller of a local firm who called at the head office of a big buyer of jute goods during an air raid the other day was told that no orders could be given out until his firm was assured that their works were still standing. The works were some distance away, and as it happened, some buildings in their vicinity were demolished. This illustrates why any orders placed meantime are for small quantities. The Government continues to place orders for various kinds of cloth and bags in fair quantity, the principal of which was one for 3,000 cuts of 12 in. cloth for bread bags, while a quiet steady demand exists for sand-bags, though in many cases concrete is being substituted for these, as the sand-bags do not appear to be withstanding the weather conditions so well as was expected.

ORDER FOR SAND-BAGS

Some disappointment was expressed when it was reported that the Government had placed orders with the Indian Jute mills for 58,317,000 sand-bags for delivery during October and December, but it was later learned that these were for the Near East. Obviously there was little sense in sending the raw jute to Dundee to be manufactured into sand-bags to be returned to Egypt or Palestine. The Government has already so many sand-bags in this country that there is no likelihood of more being ordered for many months. Export trade to those countries with which we are still able to do business is considered to be satisfactory, as Dundee prices have fallen to such an extent that they can compete with Calcutta. The recently formed Export Group are doing their best and, as Mr. D.A. Anderson told the members of the Chamber of Commerce at their quarterly meeting the other day, there is no doubt that they will leave no stone unturned in their endeavour to secure outlets for Dundee manufactures. In the meantime, trade is generally dull and in the majority of cases the works are curtailing production by stopping machinery or working short time.

EMPLOYMENT POSITION

The figures of unemployment on 12th August last, issued by the Ministry of Labour, were 3,075 men, women, boys and girls wholly unemployed and 1,559 working three days or less per week compared with 2,707 and 1,113 respectively on 15th July last.

RAW JUTE PRICES

In spite of the final jute crop forecast indicating the record crop of 12,562,452 bales, prices for the fibre have been fairly well maintained during the month, the full group of Daisee —2/3 for shipment to Dundee falling from £22 to £21. 15s. and rising to £22. 15s. for October to November.

PRICES OF MANUFACTURED JUTE

Spinners cannot yet be using any of the cheaper priced jute they have been able to buy during the past few months and they cannot be making a profit by offering to sell common 8lb. cops at 3s. 1d. which works out at approximately £42 per ton nett. If they buy jute on spot today, it costs them £33 per ton for Daisee —2/3, native quality, usually calculated to be the cost of their batch leaving them only £9 for spinning costs.

Jute and Substitutes

INDEX NUMBER OF MID-MONTHLY PRICES

THE following index number of prices have been prepared from figures published in the *Daily Mill Stock Reporter* of New York. They only show the variations of prices as compared with the base period.

(*Base: August, 1939 = 100*)

Commodity	August 1940	Sept. 1940	Oct. 1940	Nov. 1940	Nov. 1939	Nov. 1938
JUTE, RAW:						
Native Firsts ...	120	107	104	104	173	96
MANILA HEMP:						
Davao F ...	105	117	129	161	195	95
Davao G ...	100	120	150	182	193	105
SISAL:						
Java A ..	107	107	85	85	132	105
African ...	141	141	138	138	135	105
ISTLE:						
Palma ...	138	119	100	100	123	96
Tula No. 1 ...	116	111	111	109	111	100
BURLAP:						
8 oz. × 40″ ...	123	123	130	137	184	95
10 oz. × 40″ ...	128	128	134	140	202	92
10 oz. × 36″ ...	155	155	160	170	250	113
OSNABURG:						
36″, 2·85 ...	105	103	111	116	121	89
40″, 2·05 ...	116	116	121	122	127	95
KRAFT PAPER:						
No. 1 ...	179	179	179	179	111	111

New Uses for Jute

ATTEMPTS TO MEET CANVAS SHORTAGE

ACCORDING to the *Financial Times* of London, India has supplied Britain with 3,000,000 yds. of a cotton and jute union fabric. It is a new type of cloth evolved in India by the cotton and jute industry jointly with the object of meeting the position caused by the world shortage of flax. It is stated that the fabric has been found to be extremely successful.

Jute hessians are also being used to meet the shortage of canvas caused by the war. According to the *Jute Review* of October, 1940, the increasing use of air raid shelters has culminated in a big demand for camp beds. Camp beds, however, are so scarce that people wanting them will pay almost any price. Certain manufacturers are taking advantage of this shortage and have put on the market very crude and easily manufactured beds, having a wooden framework and jute hessian cover. Slight objection is generally raised by purchasers as regards the peculiar odour of the material used but the smell is nothing as compared with the lack of sleep and there still remains a big market for such beds which is not being fully exploited.

Jute hessian is also being used as a substitute of canvas in making deck chairs and covering broken windows.

JUTE CLOTH HAMMOCKS

Dundee is making an appeal to the Government for the use of jute cloth hammocks in air raid shelters states the *Daily Herald* of 15th October, 1940.

Mr. T. M. Ferguson, interim Secretary of the Dundee Jute and Flax Workers' Union, has written to the Ministers of Supply and Home Security and the Ministers of Labour urging the advantages of hammocks over wooden bunks. He claims that they are not so costly and wood for bunks could be reserved for building if jute cloth hammocks were used; work could also be given for a considerable time to jute workers in Dundee. Probably the most convincing argument in favour of hammocks, the latter says, is the saving of space in shelters. They would also be easier to keep clean.

Mr. Ferguson has made inquiries of jute manufacturers and finds that the work could be easily done. Each hammock would require three yards of cloth with strong hems at each end and eyelets for the use of ropes or poles. It is pointed out that the Dundee jute industry made 5,000,000 sand bags a week and is now ready to help the Government in providing sleeping accommodation for shelters.

The Association of Jute Spinners and the Manufacturers is also taking the matter up and giving its backing to the claims of the jute industry.

FIBRES FROM BANANA PLANTS

A HEMP SUBSTITUTE IN FORMOSA

The Formosa Development Co., a Japanese organisation, is reported to have succeeded in producing a hemp substitute from banana skins, states the *Capital* of 3rd January, 1941. The concern plans to install 500 sets of a special fibre-extracting machine with which it hopes to produce 4,000,000 lbs. of the substitute annually.

Formosa is one of the jute-growing countries of the world and attempts are being made to increase the production. It is reported by the *Jute Review* of October, 1940 that during 1938, 14,000 tons of jute were grown in the island. The production during 1939 was slightly higher than that of 1938.

Shortage of Textiles Fibres in Spain

USE OF ESPARTO GRASS

SPAIN has generally to depend on other countries to get its supply of textile fibres. Before the Spanish civil war, which broke out in 1937, the country used to import about 2·5 lacs of bales of jute from India every year.

According to a report of the German Official News Agency published in the *Textile Mercury and Argus* of 27th September, 1940 extreme difficulty is being felt by Spain in importing textile fibres and the attention of the country has now been drawn to the use of esparto grass specially as a substitute for jute and hemp and as a raw material in the production of cellulose. The centre of the esparto grass fibre industry is the district around Cieza where about 10,000 tons of esparto grass fibre are manufactured every year.

Jute Freight Rates

It was announced by the Burlap and Jute Association, states the "Daily Mill Stock Reporter", that the ocean freight rates on burlap and raw jute from Calcutta to North Atlantic and Gulf ports of the United States will remain unchanged for the first quarter of 1941.

The grass is botanically known as *stipa tenacissima* and is generally grown in Algeria, Lybia, Tunis and Spain. Experiments to spin the esparto grass fibre have proved successful and pure esparto can now be spun into yarn No. 2 and a mixture of 30% esparto and 70% jute result into No. 4 yarn.

Information on the use of this fibre by the Italian jute mills has already been published in an earlier issue of this Bulletin. A large quantity of the grass is used for making paper and it seems doubtful if a large supply of it can be obtained for substituting jute.

Wool Packs From New Zealand Flax

A NEW FACTORY TO OPERATE

According to a statement published in the *Jute Review* of September, 1940 the Government of New Zealand have announced their intention of operating a new flax factory which will be engaged solely on the production of flax wool packs. It is the intention of the Government that this new factory will ultimately produce all the packs necessary for the carriage of New Zealand's wool and that the production of the flax wool pack should eliminate the use of jute wool-packs.

War Risk Rates for Jute

According to the "Daily Mill Stock Reporter" of 16th November, 1940, War risk rates for burlap from Calcutta to the United States, Atlantic and Gulf Ports, via, the Cape of Good Hope are as follows: American vessels 2 per cent; all other vessels 5 per cent. British capture and seizure: American, British, Norwegian and Dutch vessels, ¼ of one per cent with full clause; Swedish vessels, ¼ of one per cent with limited clause; all other vessels excepting Italian and French, 1 per cent.

It has been further reported by the *Jute Review* of October that the graziers' associations are urging growers to press-back an average of 336 lbs. of wool in each bale instead of 300 lbs. as is the present practice, without altering the size of the bales. If this new method of baling be adopted, it will mean a saving of £75,000 per year in packs, freights and handling charges. But this will also mean a loss of business to the jute industry of about 150,000 wool packs.

Experiments with Sisal Bags

RESULTS SATISFACTORY

EXPERIMENTS with sisal have been carried out since 1937 by the Amsterdam Museum of Trade, the results of which were quoted in a survey of the International Institute of Agriculture, reports the *Jute Review* of October, 1940. The Museum, after long practical experience by overseas merchants came to the following conclusions :—

The sisal bag does not present any difficulties in the shipping of pepper, nutmegs of inferior quality, coffee, copra, oil-palm kernels and loose salt, but it is unsuitable for the transport of cocoa. The sisal bag is also unsuitable for ground tin and ground manganese, but may well be used for unground ores.

The difficulties in the use of sisal bags are mostly due to the lack of smoothness of the tissue, making it nearly impossible to repair the damages occasionally done in handling and in the taking of samples. In any case sisal bags are less easily repaired than jute bags. The sisal bag is used frequently in the shipment of coffee from Central America.

In Europe only the use of the most modern spinning methods may possibly allow competition between jute and agave fibres and their mutual substitution, as the latter cannot be spun as fine as jute. Therefore, for the same surface of twill, the quantity of sisal fibre required considerably exceeds that of jute and so makes competition impossible. Hence also, the substitution of the cheap caroa fibre of Brazil is handicapped owing to the smaller experience of spinning in that country and to the less modern plant used.

Cotton Roads for Bombay

EXPERIMENTS BY I. C. C. C.

ACCORDING to a special correspondent of the *Times of India*, the Indian Central Cotton Committee has decided to carry out an experiment in Bombay with the co-operation of the Bombay Municipality to find out whether under the prevailing conditions of temperature and humidity the roads constructed with cotton fabrics would last longer and better than the ordinary roads. If this experiment gives positive results, it opens up the possibility of using some of Indian short staple cottons.

The fabric used in the construction of bituminous roads and streets is an open weave type made either from very short staple cotton or cotton waste. It is used as a reinforcing membrane and is placed after the base of the road is primed with bituminous material. Crushed metal is then spread over the fabric as soon as the prime is cured sufficiently well and the rest of the operations are proceeded with in the usual manner. In addition, cotton mats can be used for curing cement roads, especially in areas where the water is difficult to transport from one place to another, as these mats retain moisture for a long time.

Although textile mills in this country are busy executing war orders, one of the local mills has agreed to produce an open weave fabric required for the proposed experiment. As soon as the materials are available and the sanction of the authorities is obtained the Road Department of the Bombay Municipality will lay four stretches 500 feet each and give them a thorough test side by side with roads constructed in the usual way. The two roads provisionally selected for this experiment are sections of Bhau Daji Road and Sewree Cross Road, in the north of the city.

Similar experiments with jute hessian have been conducted in different parts of the world with more or less satisfactory results as reported from time to time in the earlier issues of this Bulletin.

Flax Fibre

CULTIVATION AND PREPARATION

[*Attempts are now being made to grow fibre flax in India on a commercial scale and the Indian Central Jute Committee has received several queries as regards the cultivation and utilization of the fibre. The following note was prepared to meet this demand and will be published in three instalments—Cultivation and Preparation, Commercial Possibilities in India, and the Problems of Manufacture. The first of the series is given below.*]

THE flax plant belongs to the *Linum* family. About one hundred species of the family are known and only one, *Linum usitatissimum,* cultivated. This supplies linseed and flax fibre of commerce. There are two varieties of this species :—

(a)	*L. usitatissimum, vulgare*	... Blue flower bearing plant.
(b)	*L. usitatissimum, album*	... White flower bearing plant.

Fibre obtained from the former variety is finer and of better quality.

The plant is cultivated annually. Its stem is generally solitary, erect and elegant. It is cultivated for two of its products—fibre and seed. When grown in cold countries the plants do not branch out, if care is taken, and produce fibres which are long, fine and of very good quality. But in hot climates they generally branch out considerably and produce a medium length of straw and quality of fibre and a large quantity of seeds. So generally the fibre is produced in cold countries and seeds (linseed) in hot ones.

CLIMATE AND SOIL

Cold or temperate countries are most suitable for flax cultivation. Best flax growing districts of the world lie between 48° and 55° N. A temperate and equable climate free from heavy rains and frost, interspersed with frequent moist winds are desirable factors.

Good, loamy soil, ploughed 6 to 7 in. deep over a firm clay subsoil is ideal for flax crop. If the subsoil does not naturally drain off the surplus moisture, the damp field should be well drained, for flax is never satisfactorily grown in water-logged soil. Ideally, the soil conditions should be such that the moisture readily percolates in wet weather and is freely absorbed from the lower strata in dry weather. But generally flax will grow in any humid climate and in a considerable variety of soil provided they are too heavy or too light.

PREPARATION OF THE LAND

Flax growing is very exhausting to soil. So flax should not be grown on the same land year after year. The soil should not be hard and lumpy. It should be fine and sufficiently porous to allow percolation but not loose. If the soil is not firm and stable the stem cannot stand erect nor be able to offer an elastic resistance to winds etc. The land does not generally require any manure.

SHOWING OF THE SEEDS

When the plant is grown for fibre it is vitally assential that the best available seeds be selected. The seeds should

(*a*) Have high percentage property of germination.

(*b*) Have weight above 4 grammes (62 grains) per 1000.

(*c*) Be of uniform size and weight. Uniformity of length and quality of fibre depends on this factor.

(*d*) Be clean and free from grass and weed seeds and dust.

Seeds may be cleaned by screening and separated from grass and weed seeds by means of a sieve containing 12 bars to the inch.

Flax seeds are sown broadcast by hand.

If showing be thin the plants will branch out and the fibre will be short and coarse. About 1·5 maunds per acre in light soil is sufficient but in heavier soils a greater profusion of seed fails to germinate and the quantity of seed may be increased up to 2 maunds per acre. The yield will, of course, depend more on the quality of the seeds. As an example we can cite the case of England where the flax growers by plant breeding and the bulking of pedigree seed can now secure almost double the return of fibre per acre than that they used to get from imported Russian seed.

DISEASES AND CARE OF THE PLANTS

The flax plants are often pestered with the followings:—

(*a*) Seedling-blight ...	is checked by dry stomsphere and soil.
(*b*) Browning ...	upper part of the plant becomes brown and brittle and the plants yield shorter fibre. This may be remedied by disinfecting the seeds.
(*c*) Rust	
(*d*) Yellowing ...	due to potash starvation of the land.
(*e*) Dodder ...	a parasite twining plant that lives on flax plant.
(*f*) Flea beetle.	

Detailed directions for dealing with these various pests may probably be obtained from some flax research centre such as the Linum Industry Research Association of Lambeg, England.

Care should be taken so that weeds may not grow along with the flax plants. Weeding like jute, is essential.

HARVESTING

The flax plants are pulled by hand after a full growth has been attained. They are not cut because flax deteriorates at the piont of severance and this also shortens the length of the fibre.

When the flowers begin to dry up and fall, the growth of the plant stops and seed bolls begin to appear and continue to develop. The seeds in the bolls are at first white, changes to pale green and thence to a brownish tint.

Many experienced growers commence to pull the plants immediately after the fruit flowers have fallen, stems have begun to turn yellow and plant leaves to fall. At this stage the seeds will have begun to change from their milky white substance to greenish colour. If however it is proposed to save both the fibre and the seed it is usually better and safer to delay the pulling operation about 3 days longer than would be considered necessary if pulled for fibre only. Then if the straw, with the seed capsules, is left to winnow and dry in the field, the sap in the stalk will continue to nourish, perfect and mature the seed sufficiently to make it suitable to be saved and stocked for subsequent sowing.

SEPARATION OF SEEDS AND BUNDLING

The flax seed may be seperated from the straw in several ways :—

(a) The seed bolls may be removed whole and the operation of crushing the bolls and cleansing the seeds delayed.

(b) The seed may be separated from the straw freely and quickly by drawing the stems through the teeth of a coarse upright steel comb.

(c) With the help of machineries.

After the seed has been removed the root-ends of the flax plants should be kept square and small bundles of uniform size made out of them. Different lengths of flax should, as far as possible, be kept and retted seperately.

RETTING

Green flax contains a gummy substance called pectose. During retting process this substance splits up into two different compounds —pectine and pectic acid. The acid is insoluble in water and remains attached to the plant until removed by bleaching operation. Pectine being soluble in water is washed off from the fibre during retting,

There are several ways of retting flax—(*a*) Retting in stagnant water; (*b*) Retting in sluggish streams or rivers; (*c*) Dew retting; (*d*) Chemical retting.

In the first two processes flax is retted like jute. Weights are put on the bundles so that they just sink under water but do not touch the ground. The fibre is considered sufficiently retted when the stems easily break without bending and when the fibre can easily be separated from the wood or pith. Yield and quality of the fibre depends to a considerable degree on retting. Clean and soft water should be used and the flax straw should never be over-retted.

In case of dew retting the stems are spread out thinly and evenly over a field where grass has been closely cropped. The heat, dew, rain and snow all contribute to the process of retting. Dew retted flax is silver grey in colour while water retted flax is yellowish white.

In chemical retting, both temperature and fermentation is well controlled and retting is finished within a much smaller period.

SCUTCHING

After retting it is desirable that the internal pith should be broken and removed from the fibre with as little injury to it as possible. It is generally done by means of machineries and the process consists of three parts—

(a) Braking, crushing and bruising the straw.

(b) Butting or braking the boon.

(c) Cleaning or finishing operation.

The fibre can be scutched by means of hand appliances also but are likely to be of much inferior quality. Flax stems grown by Bengal cultivators and fibre scutched by them by simple hand appliances as obtained from the Deptt. of Agriculture, Bengal, go to show that such fibres can not be used for the manufacture of textile of value but can be used for making cordage and canvas only. After scutching operation is over the fibre becomes ready for the market.

INDIAN EXPERIMENTS

Flax plant is being grown in India for seeds from time immemorial. Experiments to grow the plant for fibre also began as early as 1841. The results of these experiments may be summarised as follows :—

(*a*) Canal areas of U. P., parts of North Bengal, Assam, Behar and Punjab and particularly tracts below the Himalayas are suitable for flax cultivation.

(*b*) Seeds for growing flax should not be collected from seed growing plants and should be imported from Europe. Seed yielding plants also yield a quantity of coarse fibre. In C. P. the seed yielding plants have been utilised for the extraction of a coarse fibre which was cottonised and used for cretonne manufacture.

(*c*) Seed supply must be renewed after every three years.

(*d*) Flax should not be sown on the same land for more than once in three years.

(*e*) Sowing should be completed between October 15 and November 10 so that the crop may be pulled in February.

(*f*) Light or poor soil is useless for flax. High and other unmanured lands should be carefully selected. These lands should preferably remain fallow during the rains.

(*g*) Indigo is a suitable crop to rotate with flax. Indigo seeth and seeth water are valuable manures for flax.

(To be Continued)

Industrial Fibres

PRODUCTION AND TRADE NOTES

Jute Bags for Turkish Fruits

A report from Ankara published in the *Daily Mill Stock Reporter* states that an agreement has been concluded under which Britain will buy about £600,000 worth of rasins and figs from Turkey in exchange for supply of jute sacks.

Sisal in Bahama Islands

According to the *Industrial Fibres Review* there has been a marked recession in the exports of sisal from Bahama Islands. The amount exported during 1936 was 1,487 tons which came down to 717 tons in the following year, 99 tons in 1938 and 115 tons in 1939.

Fibre Plants in Rumania

The Textiles Plant Bill recently introduced in Rumania for the encouragement and industrialisation of textile plants has been formulated in order to enable the Government to reduce the amounts at present paid out for the import of textile plants and textiles, which come to about 3,500 million lei a year, states the *Industrial Fibres Review.* At present Rumania favours a policy in favour of the cultivation of cotton which she is forced to import but the importance of the cultivation of flax and hemp will not be overlooked.

Sisal and Ramie in Formosa

According to the correspondent of the *Jute Review* Formosa produced 800 tons of sisal and 796 tons of ramie during 1939.

Effect of war on Jute Contracts

AN INTERESTING CASE

A very interesting case was recently heard in the King's Bench Division and stated by the Appeal Committee of the London Jute Association, states the *Shipping* of Liverpool. The case arose out of a contract of July 27, 1939 for the sale by the General Fibre Co., Ltd., to Hindley & Co., Ltd., of 250 bales of jute for delivery at Hamburg, Antwerp, Rotterdam or Bremen from Calcutta.

Under the contract the declaration of the port of destination had to be made on or before August 15th, 1939, but no declaration was made by the buyer until September 11th, when Bremen was declared. In the meantime the Trading with the Enemy Act had come into force and the sellers said its effect was to make the contract illegal.

. The Appeal Committee had found that the contract was not concelled. That was the first question for the opinion of the Court. The second question was whether, through the correspondence which followed, there was a waiver of the sellers' right to refuse to accept later declaration which the buyers made of Antwerp as the port of destination or whether the correspondence resusciated the contract. On this the Appeal Committee had found in favour of the buyers.

Mr. Justice Atkinson, giving judgment said that when the buyers made the declaration nominating Bremen they did something they were not entitled to do. It could only become a term of the contract if it imposed a contractual duty on the sellers. But it was a nullity ; it imposed no duty, and in no way became part of the contract of sale. It had no more effect than if they had declared Timbuctoo. That being so, and it being a bad declaration, they were entitled to withdraw it and make a declaration which was good. His Lordship therefore answered the first question in the case in the same way as the Committee had, by stating that the contract was not concelled.

With regard to the other question it seemed to his Lordship that it was quite open to the Appeal Committee to take the view that the letter and the delay did amount to a waiver of their right, if there were such a right, to accept the Antwerp declaration. He doubted whether it was right to regard it as a new contract, but that was a matter of no importance. The Committee were entitled to answer the questions in the way they did, and his Lordship was not prepared to differ from them in the view they took. He accordingly entered judgment in favour of the buyers.

Monthly Notes on Progress of Schemes

THE following is a short review to indicate the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

A meeting of the Jute Census Committee was held on the 17th December, 1940 to consider the report on the Sample Census of the area under jute in Bengal in 1940 and to decide on the programme of work for 1941. It also considered the policy and programme of work in regard to crop-cutting experiments and approved of the budget estimates of the Scheme for the improvement of jute forecast in Bengal for 1941-42.

The Local Sub-Committee held a meeting on the 18th December, 1940, end discussed questions mainly relating to administration.

On the re-opening of the office after the Christmas holidays, the preparation of notes, etc. in connection with the meeting of the Indian Central Jute Committee to be hold on the 27th January was taken up. All the papers for the meeting have been dispatched to the members a clear fortnight before the meeting in order to enable them to consider thoroughly all the important matters that will come up for discussion.

The Hon'ble Sir Girja Shankar Bajpai, K.B.E., C.I.E., I.C.S., Member-in-Charge of the Department of Education, Health and Lands and Mr. G. S. Bozman, C. I. E., I. C. S., Joint Secretary of that Department visited the Technological Laboratories of the Committee at Tollygunge on the 6th January, and the latter also visited the office of the Committee.

Technolongical Research

Spinning trials and yern tests on the samples of 1940 crop fibre recived from the Jute Specialist, Dacca, are now in full swing.

Further results on Dundee and Continental packings of pucca baled jute have been obtained and are in genral agreement with those reported in the last issue.

The revision of estimates for the proposed extensions to the buildings and equipment of the Laboratories is now in progress.

In the Chemistry Department an investigation of dark grey *(Shamla)* jute shows that such fibre has a high iron content. The colour is not, however, reproduced by treating pale jute with iron salts. It can be reproduced by a combined treatment with tannin and iron salts and it appears that the dark colour is produced in retting by the interaction of the natural tannins of the jute stem and iron compounds in the water. Ordinary retted fibre has a low tannin content both because the tannins are leached out and because they are not located in fibre strands themselves.

A cheap chemical treatment to remove the dark gray colour of *Shamla* jute appears to be feasible.

Agricultural Research

All the fibre produced at the out stations was weighed. Necessary samples were sent to the Technological Research Laboratories for testing the quality of the fibre. The weighments of seeds have also been completed.

The work of statistically analysing the results of the experiment is progressing satisfactorily.

Microscopic examination of retted stems was continued and some interesting photo-micrographs were taken. During retting both bacteria and fungi penetrate the cells of the stem. More than one species of bacteria are involved in retting.

Sometimes the rettting is slow near the nodal region due to that region being more suberized and having traces of leaf bundles. A large number of internodes and great height are therefore not an unmixed blessing. Plants having longer internodes should lead to more uniform retting.

Further improvement in the technique of treating the diseased seeds in hot-water has been effected. This has made possible the application of higher temperature without any loss in vitality.

Marketing and Transport

All members of the staff were fully occupied on the preparation of the Second Marketing Report, the preliminary drafting of which was substantially finished. This report proved to be a larger undertaking than was at first envisaged entailing exhaustive examination of many trade records, publications for many years back and widespread enquiries in all sections of the manufacturing, gunny and jute exporting trades.

The Senior Marketing Officer visited Shillong and attended a meeting, presided over by the Hon'ble Minister for Agriculture, to discuss certain recommendations contained in the First Marketing Report and their possible application to the trade in Assam. It was decided that a co-operative jute society should be started at one suitable point and in this connection the Committee's Senior Marketing Officer, in consultation with the Director of Agriculture, and the Senior Marketing Officer, Assam, prepared a draft scheme for the approval of the Assam Government. On returning to the Headquarters, Mr. Low spent several days in re-setting the district survey reports prepared after the first marketing enquiry in Assam, in the form of a comprehensive provincial report. This was done at the request of the Hon'ble Minister for Agriculture, Assam.

Statistics and Information

The absence of correlation between jute prices and factors likely to affect them has necessitated an analysis of deflated prices of jute, the compilation of which is well under progress.

A method has been devised for the estimation of the prices of jute and cotton bags in the U. S. A. It is based on the reports of the U. S. Department of Agriculture. The first instalment of the prices of jute and cotton bags is published elsewhere in this *Bulletin.*

The drafting of a report embodying the results of the investigations carried out so far into the demaned for jute has been taken in hand.

Publicity

The summarised Bengali version of what may be called the Committee's Triennial Report has been completed in draft form and is now undergoing revision by the Secretary. It is expected that printed copies will be ready for release towards the end of February or in the beginning of March.

Notes dealing with the half-yearly Progress Report of the Section, proposed programe of work for 1941-42 and the working of the Loose Jute Price Dissemination Scheme were prepared in connection with the ensuing meeting of the Committee.

The production of the *Bulletin* and the working of the Loose Jute Price Dissemination Scheme have proceeded along the usual lines.

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CONTENTS

SUBJECT ... PAGE

Indian Prices during January 650
Index No. of Prices 652
Production and Stock of Jute Goods 653
Jute Restriction Scheme : Present Position 654
Bengal Governor's Advice to growers 657
Jute Futures Market Control 659
Proposed Markets Bill in Bengal 660
Cement Bags for Singapore : Government Move ... 661
Jute Purchases by Mills 661
Ninth Meeting of I. C. J. C. 662
Grading of Jute 664
Indian Trade with various Countries in 1939-40 ... 667
Marketing Problem of Sunn Hemp 669
Surplus Cotton : I. C. C. C.'s Resolution 670
More Fibre per Plant 670
Trade Conditions in Argentine 672
Jute Trade in U. S. A. 678
U. S. A. to Control Trade 679
U. S. A. Statistics 685
Sales of Floor-Covering in 1941 : A Forecast ... 687
Swedish Flax and Jute Industry 688
Jute Freight Rates 688
Mid-Monthly Prices of Jute and Substitutes 689
Future of Jute : An Article 690
Jute Mills in Egypt 692
Sisal Cultivation in Indo-China 693
Mexican Henequen 694
Manila Hemp or Abaca 696
Woolpacks from New Zealand Flax 697
Jute Growing in Russia 697
Substitution of Jute by Cotton 698
Bags from Rosella Fibre 698
Flax Fibre : Commercial Position in India 699
Industrial Fibres 705
Monthly Notes on Progress of Schemes 707
Corrigenda 711
Conversion Table ... ... *Inside Back cover.*

Indian Prices During January

UPWARD TREND

THE tone of the **loose jute** market throughout this month has been easy, with sellers keen for business in low assortment. Mills have bought moderate quantities in various combinations of grades at prices based on the agreed minimum rates. During the month business was reported as follows :—

Indian District Tossa Middles and Bottoms (high assortment) were done at Rs. 8/- and Rs. 6/4/- per maund respectively.

European Middles and Bottoms changed hands at Rs. 9/4/- and Rs. 7/- in the selection 30/70.

'Supervised' Jat White was reported at Rs. 9/- and Rs. 6/12/- in the portions of 50% Middles and 50% Bottoms.

Indian District Tossa was sold at Rs. 7/12/- and Rs. 6/- on the basis of 40/60 for Middles and Bottoms. Indian Jat Bottom marks alone were sold at Rs. 6/8/- and District Tossa Bottom at Rs. 6/- and Rs. 6/4/-.

At the end of the month the market was ruling quiet and inactive with only small business passing.

PUCCA BALES

Rates fluctuated within narrow limits during this month principally owing to the generally moderate quantities of business passing. Mills showed some interest in this branch of the trade at different times and shippers came into the market for small lots, particularly of Dundee standards. The volume of trading was small.

Business was reported at the following rates :—

Mills bought—Firsts 2/3 at Rs. 41/- Ready.
Special Firsts ,, 45/- February.
Lightnings 2/3 at Rs. 37/- February shipment
Narayanganje and Mixing Cuttings ,, ,, 14/8 & ,, ,, 13/8 } per bale respectively.

Shippers bought—	Dundee Tossa	2/3 from	Rs. 43-44	February shipment
	Dundee Daisee	2/3 at	,, 35/8 to ,, 36/-	
	Firsts	4 ,,	,, 37/-	For prompt delivery
	Dundee Tossa	2/3 ,,	,, 44/-	February shipment to South America
	Outport Tossa	,, ,,	,, 34/-	

The market closed quiet with mills and shippers showing only nominal interest.

HESSIANS

At the opening, the market for hessians was dull and easy with sellers offering at the following rates :—

	Ready	*Jany.*	*Jan./Mar.*	*Apr./June*
9 porters ...	12/8	12/8/6	12/8/-	12/4/-
11 porters ...	16/9/-	16/9/-	16/5/-	15/10/-

About the middle of the month a moderate enquiry from overseas was followed by a period of steady buying. Rates advanced steadily and on January 15, stood at :—

	Ready/Jany.	*Feb./Mar.*	*Apr./June*
9 porters ...	12/14/-	12/13/-	12/10/-
11 porters ...	16/10/6/-	16/8/-	16/-

with sellers showing some reserve. Demand continued throughout the remainder of the month and good business was done in fabrics for both near and forward deliveries.

On January 24, rates had advanced to Rs. 13/8/- and Rs. 17/8/- for 9 and 11 porters respectively and sales were recorded as follows :—

11 porters ...	January	Rs. 17/6/- to 17/8/-
,, ,, ...	Feb./March	,, 17/4/- to 17/6/-
,, ,, ...	Apr./June	,, 16/12/-
,, ,, ...	July/Sept.	,, 16/4/-
,, ,, ...	Oct./Dec.	,, 15/8/-

Overseas interest slackened, however, and rates declined a little during the next few days. Sellers did not show keenness to operate at the lower levels and at the close rates were as undernoted, with only small business passing.

	Ready	*Feb./March*	*Apr./June*	*July/Sept.*
9 porters ...	Rs. 13/7/-	13/7/-	13/2/-	12/12/-
11 porters ...	,, 17/8/-	17/6/-	16/8/-	16/-

HEAVY GOODS

Heavy goods remained steady in price throughout the month influenced by the trend of the hessian market but there was relatively little business done. Rates for the more ordinary classes of goods ready for delivery were as follows :—

	3-1-41	*16-1-41*	*31-1-41*
B. Twills	31/14/-	32/2/-	32/2/-
Liverpool	36/6/-	36/10/-	36/12/-
Cornsacks	32/4/-	33/-	33/6/-

Index Number of Prices

CALCUTTA JUTE

(Base : July, 1914 = 100)

Period	Raw Jute (1)	Manufactured Jute (2)	Ratio % of (2) to (1) (3)
Average of 1914-18 ...	77	140	182
„ „ 1919-23 ...	100	142	142
„ „ 1924-28 ...	114	156	137
„ „ 1929-33 ...	59	88	149
„ „ 1934-38 ...	49	69	141
„ „ 1939 ...	80	102	128
„ „ 1940 ...	79	107	135
January, 1940 ...	124	146	118
February, „ ...	130	130	100
March, „ ...	100	114	114
April, „ ...	99	111	112
May, „ ...	85	97	114
June, „ ...	80	94	118
July, „ ...	63	95	151
August, „ ...	53	85	160
September, „ ...	53	101	191
October, „ ...	50	103	206
November, „ ...	52	106	204
December, „ ...	56	107	191

December, 1940 recorded a further advance in jute prices. Although raw jute prices were still at a very low level, the rate of increase in the prices of raw jute was greater than that of manufactured goods. The parity ratio also came down to a lower level, but it still showed a wide gulf between the prices of raw material and manufactured products.

Production and Stock of Jute Goods

SLIGHT INCREASE IN STOCKS

MANUFACTURE of jute goods during January, 1941 by the mills reporting to the Indian Jute Mills Association was practically the same as in the previous month. The details of production during January, 1941 are given below:—

Sacking Bags	(in 1,000s)	34,079	or	35,757	tons
Hessian Bags	(„)	14,781	„	4,165	„
Sacking Cloth	(in 1,000 yds.)	4,952	„	2,191	„
Hessian Cloth	(„)	102,210	„	27,428	„
Others				3,489	„
Total in January, 1941				73,030	„
Total in December, 1940				73,130	„

The following are the **stocks of manufactured goods** (cloth and bags) as reported to the Indian Jute Mills Association by its members:—

Commodity	End of January				End of December	
	Million yds.		Thousand tons		Million yds.	Thousand tons
	1941	1940	1941	1940	1940	1940
Sackings	145	120	63	51	144	62
Hessians of which	217	315	53	76	219	53
(*a*) Sandbags on Govt. account	69	...	...	...	64	...
(*b*) 8 oz. 40″ cloth	29	...	6·5	...	37	8·3

Jute Restriction Scheme

BENGAL AND OTHER PROVINCIAL GOVERNMENTS

IN the Bengal Legislative Assembly, replying to Dr. Suresh Chandra Banerjee on February 3, 1941 whether it was a fact that the Governments of Bihar and Assam had refused to co-operate with the Government of Bengal in its Jute Restriction Scheme, the Hon'ble Mr. Tamizuddin Khan said that it was not so.

The Hon'ble Minister added that the Governments of Assam and Bihar had pointed out that they were not in a position to enforce regulation of the 1941 crop by the same methods as were being adopted in Bengal. Besides the lack of suitable legislation, there were other difficulties which made it impracticable for them to control the 1941 crop in the same way as Bengal was doing. The Government of Bihar had assured the Bengal Government that they would take steps to prevent any increase in acreage in Bihar next year. The Government of Assam had asked for certain financial assistance to enable them to regulate the 1942 crop by the methods employed in Bengal and an agreement with this Government was at present under their consideration. He was quite sure that both these Governments would do all they could to co-operate with them at least to the extent of discouraging any increase in the acreage under jute in their provinces next year.

NEXT YEAR'S PRODUCTION

Replying further to Dr. Banerjee, the Hon'ble Minister stated that the Government had decided to limit the production of jute next year to one-third of this year. This decision, the Hon'ble Minister pointed out, was made after considering the advice of the Advisory Board constituted under Section 8 of the Bengal Jute Regulation Act, 1940.

The Minister added that the stocks of surplus of jute carried forward at the commencement of the current season, i.e., the 30th June, 1940, were estimated at about 23 lakhs of bales or 115 lakhs of maunds. The production of raw jute this season was estimated in the final forecast at 125. 6 lakhs of bales but Government believed that the actual outturn was unlikely to exceed 120 lakhs of bales. It was very difficult, Mr. Khan said, to give a figure for actual sale of raw jute but for purposes of their regulation policy, Government had adopted the figure for probable consumption of raw jute which was suggested by the Advisory Board, namely, 83 lakhs of bales.

Replying further, the Minister stated that the total amount of jute in the market next year was estimated to be about 88 lakhs of bales, including the surplus likely to be carried forward to next season.

SUPPLEMENTARY BUDGET DEMAND

Supplementary budget demands for 1940-41 placed before the Bengal Legislative Assembly include Rs. 70,000 for agricultural propaganda and demonstration, Rs. 11,93,000 for preparation of records of land where jute is grown for the current as well as for the next year, Rs. 13,17,000 for expenditure for regulation and licensing of the growing of jute in the current year in terms of the Bengal Jute Regulation Act, 1940 and Rs. 29,25,000 for purchase of jute. It is proposed to supply to cultivators, on payment, seeds for substitute crops to be grown on areas which will be set free by the regulation of the jute crop for 1941. The total expenditure on this account is estimated at Rs. 5,14,000 out of which Rs. 70,000 is required during the current year and the balance in 1941-42. Rs. 29,25,000 as stated above, under the head purchase of jute represents expenditure incurred by the Government in June and July last for the purchase of jute with the object of maintaining its price at an adequate level. In all 48,948 pucca bales of jute of "L. J. A. first marks" were purchased and the sum demanded under this item includes all charges incurred for purchases, storage, commission and insurance etc.

"PROJA" MOVE

According to the *Amrita Bazar Patrika* of February 13, 1941 the Committee of the *Nikhil Banga Krishak Proja Samiti* have decided to carry on a country-wide agitation for the postponement of the Bengal Government Jute Regulation Scheme until the next year. In their opinion such a haphazard scheme will be detrimental to the real interests of the jute-growers unless the State controls the entire crop from the field to the factory and fixes a minimum price for the raw jute.

Regarding the defects of the present scheme they state that there are gross inaccuracies in the recording of jute lands, no arrangement has been made for growing alternate crops for which many lands will have to be kept fallow but there will be no remission of rent thereon, no discrimination has been made between the percentages of big and small growers, and the like.

They have issued an appeal to all the jute-growers to hold mass meetings on February 28 next and request the Government to postpone the jute crop regulation until they formulate a comprehensive scheme for the control of the entire jute monopoly.

Bengal Governor's Advice to Growers

IMPROVEMENT IN JUTE PRICES

His Excellency Sir John Herbert, Governor of Bengal, replying to addresses presented to him, on the occasion of his first visit to Mymensingh on January 29, 1941, said, *inter alia* :—

" The one issue that finds place in all the three addresses concerns the condition and future of what may be termed the jute trade. It is suggested that from the point of view of the agriculturist the present position in respect of jute constitutes a crisis, and that serious distress will result unless the price of jute can be improved. It is further suggested that this improvement can and should be effected by Government. I feel that it is necessary to invite your attention to certain facts, which there is a general tendency to overlook. The present difficulties largely result from the abnormal extent of the 1940 crop. That abnormality is partly the fault of those jute-growers who, in the mistaken expectation that the war would result in a boom in jute, inordinately extended their jute acreage. The provincial Government was persuaded, with reluctance, to abandon the attempt to regulate the size of the present crop, and the results prove that the misgivings of Government on this score have been justified. We have on our hands an enormously increased crop, an appreciable portion of which is of very poor quality, and we are faced at the same time with the disappearance of a large portion of the European markets as a direct result of the war.

" It was to meet the serious situation arising from these two factors that Government initiated a series of discussions with the representatives of the jute industry, and made with them an agreement which it was hoped would result in the mills taking a regular and reasonable quantity of jute off the market. When it was found that these hopes were not being fully realized, the provincial Government took the initiative to protect further the interests of the cultivator. As a result of representations made to the Central Government, a conference was convened in Delhi, which resulted in conclusion of a second agreement which is expected to have far-reaching and beneficial results. I do not propose to recapitulate the facts which were stated at considerable length in the *communique* issued on December 20, last. That *communique* fully explains the present position and contains advice to cultivators which it is earnestly hoped they will follow. I am advised that the mills are adhering to the terms of the present agreement, and that the purchases which they are making, and which they will make, are likely to relieve substantially the present glut in the jute markets.

" A MISCONCEPTION "

"From this brief survey it will be apparent that the provincial Government cannot be accused of indifference towards the welfare of the jute growing community. I must point out, however, that the suggestion that Government is in a position to effect any considerable rise in the price of jute is based upon a misconception of the actual position. A considerable rise in prices must depend upon an increased demand. The action so far taken has tended to improve existing rates, but until the lost foreign markets are recovered or the demands of war require an increased consumption of jute products, there can be little expectation of any substantial increase in prices. Government's object is to maintain a reasonable price for the jute-grower and the proposal that Government itself should enter the market as a purchaser will not constitute any permanent solution of a problem which has arisen largely as a result of excessive production.

" The only real remedy lies in regulation, and Government has decided to enforce regulation, not merely for one year only, but as an integral feature of a long-term policy. The fundamental importance of strict regulation cannot be over-estimated, and the interests of the jute-growers depend upon their readiness to carry out the instructions of Government in this connexion. I hope therefore that those of you, who are in a position to exert any influence in this matter, will see to it that the regulation scheme which is to be enforced this year, is explained to the cultivator as a measure intended solely for his own benefit."

Jute Futures Market Control

PROF. TODD'S NEW SCHEME

THE suggestion that the Jute Futures Market should be controlled by a new body, to be known as the Indian Jute Federation, and that all other associations should be declared illegal, is made by Prof. John A. Todd, whose services were requisitioned last year by the Government of Bengal for drafting a scheme for properly organising the futures market for jute, states an ***Associated Press*** message dated Calcutta, February 7, 1941.

Prof. Todd, who arrived in India about four months ago, has just completed his investigation and has prepared a draft scheme. It may be recalled in this connection that Mr. D. L. Mazumder, I.C.S. Secretary, Indian Central Jute Committee, was associated with the Professor in his investigations some time ago.

PROPOSED FEDERATION

The Board of the proposed Federation, Prof. Todd suggests, should be composed of representatives of the trade, Governments of the jute-growing provinces and the Central Government, chambers of commerce, shipping, law and accountancy. A Council will control the finances of the Federation which will require a considerable sum for its administration and this fund is proposed to be made available from a number of sources, such as the imposition of a stamp duty on all contracts in addition to the existing stamp duty and collection by the Federation itself of fees on contracts. The operations of the futures exchange should be in the hands of an 'ad hoc' Board of Directors, eight of whom are to be nominated and four elected by members who will be brokers and will be required to make substantial deposits with the Board either in cash or in Government securities. All business in jute futures must be transacted in the Exchange during business hours and any other business will be void by law. Every transaction in the Exchange will be posted on the price board and price fluctuations will be limited to a daily rise and fall as fixed by the Board from time to time. No other transactions will be permitted and all other associations will be declared illegal.

Prof. Todd will submit his scheme to the Government after he has received the opinions of the various associations amongst whom he has circulated an outline of his scheme and the Government, it is believed, will thereafter prepare the necessary legislation to give effect to it.

Proposed Markets Bill in Bengal

SAFEGUARDING PUBLIC INTEREST

WITH the object of securing better conditions in the various markets in the province for the public and to protect buyers and sellers, particularly cultivators selling their produce, from the present "unjustified exactions and other malpractices", the Government of Bengal propose to introduce a Bill in the present Budget session of the Assembly, states the *Associated Press.*

The Bill which is entitled the Bengal Markets Regulation Bill, provides for the fixing of the kinds of market charges and fees which may be levied by the proprietors of markets and rates at which they may be levied and for the maintenance of sets of standard weights and measures in the markets.

The proprietor of a market will be required if the Bill be enacted into law, to arrange for adequate shelter, conservancy, water-supply, sanitation, drainage, etc., having regard to local conditions and the income derived from the markets.

The measure also seeks to provide for the publication of reliable information as to prices, etc.; prohibition of trade allowances and deductions, other than those which may be prescribed as permissible; prevention of victimization by the levy of various tolls by unauthorised persons; and the regulation of the transactions in agricultural produce according to standard grades and definitions of quality so that buyers may be protected against mixing and adulteration and that sellers may be able to dispose of their produce at values in accordance with its quality.

The penalty clause of the Bill provides for fines, varying from Rs. 50 to Rs. 500 for the infringement of any of its provisions.

Cement Bags for Singapore

JUTE TO SUBSTITUTE PAPER

DURING September, 1940 the Government of India addressed the Government of the Straits Settlements, regarding the possibility of substituting the use of jute bags for paper bags as packing material for cement exported from India to Singapore.

Since the outbreak of war, India has been exporting increasingly large quantities of cement to Singapore and the Colonial Government is understood to be the ultimate consumer of the bulk of the imports. Owing to the insistence of the buyers, cement from India was being supplied in special paper bags which were only obtainable from the United States of America. These paper bags are expensive, costing 6 as. a bag and involve the expenditure of a substantial amount of foreign exchange. Experience shows that jute bags can serve the purpose equally well; though less waterproof than paperbags, they have given satisfactory results even in moist climates such as that of Burma, and they possess the further advantage of being cheap. If jute bags are used for handling cement it costs about Rs. 4 per ton as against Rs. 8 in case of paper bags.

Jute purchases by Mills.

According to the "Statesman" the total purchases of jute by the mills up to January 15, is reported to be 67,93,725 mds. The arrangement entered into at the recent New Delhi Conference was that mills should try their utmost to purchase 75,00,000 mds. Bengal Government's decision as to whether they will make good the difference by purchases on their own account is not yet known.

The Colonial Secretary, Straits Settlements, has informed the Government of India that the colony would take necessary action so that the importers agree to accept cement packed in jute bags. Similar action will also be taken by the Governments of the Federated Malaya States and Unfederated Malay States.

Ninth Meeting of I. C. J. C.

SUMMARY OF PROCEEDINGS

THE ninth meeting of the Indian Central Jute Committee was held at its office at 4, Hastings Street, Calcutta, on January 27 and 30; Mr. P. M. Kharegat, C. I. E., I. C. S., Vice-Chairman of the Imperial Council of Agricultural Research and President of the Committee was in the chair.

The President said that, before beginning, he would like, on behalf of the Committee and his own, to thank Dr. N. N. Law for the services he had rendered to the Committee and to welcome Mr. N. R. Sarker to the Committee as a new member.

The Committee heartily endorsed the sentiments voiced by the President.

HONOUR TO EX-VICE-PRESIDENTS

Mr. Priyanath Sen proposed that the Committee should record their appreciation of the honour conferred on two of their previous Vice-Presidents. Sir H. H. Burn, their first Vice-President had received a Knighthood, while Mr. P. S. Macdonald had been honoured with the title of C. I. E. The Committee should convey their congratulations to both of them.

The proposal was accepted with acclamation.

Mr. N. R. Sarker who had been appointed a member of the Committee in place of Dr. N. N. Law was elected to be a member of the (i) Local Sub-Committee, (ii) Technological Research Sub-Committee, (iii) Technological Research Appointments Sub-Committee, and (iv) Statistics and Information Appointments Sub-Committee.

MR. W. A. M. WALKER RE-ELECTED

Mr. W. A. M. Walker was re-elected Vice-President for the year 1941-42.

Mr. K. I. A. Quaderi, Assistant Publicity Officer, and Mr. K. C. Basak, Assistant Economics Officer, were confirmed in their respective appointments.

With the object of developing a technique for ascertaining the rate of yield of jute, the Committee approved of a scheme of crop-cutting experiments spread over a period of three years at a cost of Rs. 48,000, half of which would be contributed by the Bengal Government.

Stabilisation of jute prices formed another important subject. At the last meeting of the Committee held in September, 1940 a special Sub-Committee was appointed with Sir A. H. Ghuznavi as Chairman to examine the question of the stabilisation of jute prices and the meeting of January 27 considered its report.

The sub-committee concerned itself only with the special problem of jute prices in 1940, created by the anticipated large unmarketable surplus of the crop. Its recommendations were in the main similar to some of the provisions of the recent agreement arrived at between the Mill Industry and the Bengal Government as a result of the Jute Conference held in Delhi in the first week of December. As regards the formulation of a long-range scheme it was considered that the present was not an opportune moment. The Committee in its plenary session on January 27 concurred in this view but decided that this matter might be again re-opened by the Committee if the conditions of the trade required the formulation of another scheme of stabilisation of prices.

FULL SCALE SURVEY

For a full provincial area survey for work in connection with the improvement of the Committee's Jute Forecast Scheme the Committee sanctioned the expenditure of Rs. 1,50,000 in the year 1941-42, the Bengal Government providing Rs. 75,000.

After disposing of several other routine matters the Committee adjourned until 10-30 a. m. on January 30, to enable the several Standing Technical Sub-Committees meanwhile to deal with subjects on the agenda concerning their respective spheres before they went up before the main Committee.

SECOND DAY'S PROCEEDINGS

The Government of India having recently approved, in principle, of the scheme for the extension of the Technological Research Laboratories of the Indian Central Jute Committee for research work in connection with new uses for jute for which they had provided Rs. 3,85,000 (non-recurring) and Rs. 10,000 to Rs. 40,000 (recurring) in next year's budget, the Committee appointed a special sub-committee of experts to recommend among other things the kind of machinery that would be required for the purpose, at the resumed sitting of the Indian Central Jute Committee on January 30, Mr. P. M. Kharegat, C. I. E., I. C. S., presiding.

It was agreed to carry on investigations on jute sticks for alpha-cellulose or for any other chemicals that they might yield. As regards jute waste, which was produced by the mills, it was recommended that research work in connection with its economic utilisation should be referred to the Indian Jute Mills Association Laboratory, but work on its new uses should be undertaken at the Committee's Technological Research Laboratories. At the same time, it was suggested that the problem of extracting useful chemicals, if any, out of jute waste might be taken up by the Universities. To find out whether paper could be manufactured economically from jute waste, it was decided to carry on further investigation with the help of the Forest Research Institute at Dehra Dun, in continuation of the earlier investigations on this subject.

Grading of Jute

According to a "United Press" messaqe, it is understood, that the Indian Jute Mills Association, have introduced a system of grading jute marks on the basis of actual reports submitted by member-mills on the marks purchased bg them. It is proposed that grading will be made for quality and moisture and that the list of graded marks will be issued for each quarter of the season. The list of the graded marks for the first quarter has been recently issued and is at present the subject of general interest in the trade.

X-RAY EXAMINATION

As X-ray examination of fibre structure had proved so useful in the cases of artificial silk and wool and as it was expected that similar results might be obtained from the X-ray analysis of jute fibre particularly in regard to the dyeing of jute, a small sub-committee of experts consisting of Prof. M. Saha, Mr. C. R.

Nodder and Dr. W. G. Macmillan was appointed to go into the question of X-ray examination of jute fibre. Tho sub-committee would examine the work that had been done elsewhere on this subject and put up before the Committee a detailed programme at its next meeting.

The designations of the Commitee's Agricultural Research Laboratories at Dacca and the officer-in-charge were changed into "Jute Research Laboratories" and "Director", respectively. Detailed proposals for opening three sub-stations for agricultural research on jute in Bengal were approved and a grant of 50% of the total cost of such a sub-station for Assam was sanctioned.

In view of the fact that prices of loose jute in Calcutta had been fixed under the recent agreement between the Government of Bengal and the Indian Jute Mills Association it was decided to discontinue the Committee's Price Dissemination Service for the rest of the present year, as long as prices remained at the fixed levels. It will be recalled that the object of this Service was to make available to the jute growers in Bengal, Assam and Bihar the day to day prices ruling in the Calcutta loose jute market by means of telegrams and post cards.

BENGAL AND ASSAM CO-OPERATION

At its meeting in September, 1940, the Commitee decided that the Provincial Governments should be invited to express their opinion on the recommendations contained in its "First Report on the Marketing and Transport of Jute in India" regarding the improvement into the conditions of marketing of raw jute in the jute-growing provinces in India. Offers of co-operation on certain items of work having been received from Bengal and Assam, the Committee approved of a Bengal Government suggestion for collaboration in the establishment of experimental village grading stations, the Bengal Government bearing the cost of any scheme that might be approved. It was also agreed that the assistance of the Marketing Section of the Committee would be available to the Bengal Government when it was required.

A scheme for starting three experimental jute grading stations in Bengal, one in Assam and one in Bihar at an aggregate cost of Rs 4,000/- was approved and a grant-in-aid of Rs. 1,500 was sanctioned for a scheme for the co-operative marketing of jute in Assam.

The "Statistics and Information" Section of the Committee was renamed "Economic Research and Publicity" Section; and an enquiry into the village consumption of raw jute in Bengal, to find out the quantity and the various uses made of it in the Bengal villages was decided upon.

With a vote of thanks to the chair, moved by Mr. W. A. M. Walker, the meeting concluded.

Members present included :—

Mr. W. A. M. Walker, Sir A. H. Ghuznavi, Mr. M. Carbery, Dr. S. K. Mitra, Mr. S. K. Roy, Mr. S. A. Rouf, Mr. M. A. Mollah, Khan Sahib Nurul Amin, Mr. Priyanath Sen, Khan Bahadur Aulad Hossain Khan, Mr. H. A. Luke, Mr. I. G. Kennedy, Mr. G. Euthymopulo, Mr. M. A. Ispahani, Mr. Padampat Singhania, Dr. W. Burns, C.I.E., and Mr. D. L. Mazumdar, I. C. S., (Secretary).

The following also attended by invitation :—

Prof. B. C. Guha, Prof. M. N. Saha, Prof. J. C. Sinha, Prof. H. L. Dey, Dr. W. G Macmillan, Prof. J. K. Chowdhury, Prof. J. A. Todd, Mr. C. R. Nodder, Mr. A. S. Gillies, Dr. J. S. Patel, Mr. A. S. Low, Mr. K. C. Basak and Mr. K. I. A. Quaderi.

Indian Trade with Various Countries in 1939-40

JUTE SHOWS ADVANCE

South and East Africa

INDIAN trade with the Union of South Africa recorded a marked improvement in 1939-40, but her trade with East Africa including Kenya colony, Zanzibar and Pemba, the Protectorates of Uganda, Tanganyika and British Somaliland, declined.

The value of the total trade between India and South Africa was Rs. 369 lakhs as against Rs. 188 lakhs in the previous year. Principal items of India's exports to the Union consist of jute manufactures and rice in the husk. Shipments of jute bags rose from 28 million to 38 million and those of gunny cloth from 10 million yards to 19 million yards.

The total value of trade with East Africa declined from Rs. 637 lakhs to Rs. 508 lakhs. Imports from these countries were larger than exports thereto. The chief items of India's exports to East Africa are gunny bags, cotton piece-goods and food grains, which taken together accounted for more than 50 per cent. of the exports. Shipments of gunny bags rose from 7·2 million to 9·2 million.

Canada

The trade between India and Canada rose by Rs. 244 lakhs in 1939-40. India's principal exports to Canada are jute manufactures (chiefly gunny cloth) and tea. The exports of gunny cloth advanced from 89 million yards to 134 million yards and those of gunny bags from Rs. 4 lakhs to Rs 9 lakhs.

United Kingdom

There was a decline of Rs. 487 lakhs or 10 per cent. in India's imports from the United Kingdom during 1939-40 while her exports to the United Kingdom advanced by Rs. 1,662 lakhs or 29 per cent. The principal commodities exported to the United Kingdom were as usual tea, raw and manufactured jute, hides and skins, raw cotton, seeds, metals and ores, raw wool, oil cakes and food grains, These articles taken together represented 88 per cent. of the total exports. Shipments of raw jute advanced from 180,700 tons valued at Rs. 351 lakhs to 193,600 tons valued at Rs. 734 lakhs. Owing to the increased demand for gunny bags necessitated by the war the exports thereof advanced from 75 million to 685 million. Similarly the yardage of gunny cloth exported advanced from 171 million to 260 million.

Straits Settlements

India's trade with the Straits Settlements showed an improvement in 1939-40, the values of imports and exports having advanced from Rs. 413 lakhs and Rs. 217 lakhs to Rs. 482 lakhs and Rs. 274 lakhs respectively. The principal items of India's exports to the Straits Settlements consist of cotton piece-goods and gunny bags both of which showed improvement. The number of gunny bags exported rose from 5·6 million to 10·6 million, the value rising from Rs. 13 lakhs to Rs. 21 lakhs.

Australia

Indian exports to Australia improved to the extent of Rs. 2·52 lakhs in 1939-40, while Australian imports into India recorded a slight fall. Principal items of India's exports to the Commonwealth consist of jute manufactures. Nearly 71 million gunny bags and 41 million yards of gunny cloth were exported as against 66 million gunny bags and 31 million yards of gunny cloth in the preceding year.

South America

There was a substantial improvement in India's trade with the South American countries in 1939-40. The aggregate value of imports amounted to rupees five lakhs as against rupees three lakhs in the previous year. India supplied as usual jute bags and cloth, exports of which were valued at Rs. 399 lakhs as compared with 313 lakhs in 1938-39.

China

The value of imports from China advanced from Rs. 173 lakhs in 1938-39 to Rs. 261 lakhs in 1939-40 and the exports to China from Rs. 250 lakhs to Rs. 851 lakhs. Shipments of both gunny bags (Rs. 18 lakhs) and cloth (Rs. 5 lakhs) improved during 1939-40.

Marketing Problems of Sunn Hemp

PROPER GRADING OF FIBRE

A conference of balers, shippers and trade interests concerned with sunn hemp was held in Calcutta on January 30, 1941, under the presidentship of Mr. A. M. Livingstone, Agricultural Marketing Adviser to the Government of India, states an *Associated Press* message.

The object of the conference was to consider problems arising out of the gradual deterioration of the quality of Indian hemp in the world market and of the non-existence of recognized grades of Bengal, Benares and Central Provinces sunn hemp.

The conference resolved that in order to improve and maintain the standard of quality of sunn hemp exported from India, the Government of India should be moved to take such steps as might be necessary to prohibit the export by sea from India of sunn hemp other than that properly graded and marked in accordance with standards prescribed under the Agricultural Produce (Grading and Marketing) Act, 1937.

Graded hemp, the conference further resolved, should be packed in bales of the customary weight of 400 lbs., securely bound with rope and marked in an approved manner. Similar specifications of quality, it recommended, should be prepared in consultation with the trade for other classes of sunn hemp, namely, the Central Provinces and elsewhere.

The conference has appointed a sub-committee with the following representatives to consider details of grade specifications and questions of quality control :—Mr. Gopal Lal Gupta and Mr. Nopany (balers' representatives), Mr. Quin (Convener) and Mr. A. Mirza (shippers' representative), with powers to co-opt.

Surplus Production of Cotton

I. C. C. C. RESOLUTION

THE Indian Central Cotton Committee at its half-yearly meeting held during January last discussed the recommendations of the Wider Markets Sub-Committee in connection with the Indian Cotton situation. The Committee states that it views with increased concern the low prices of Indian cotton, specially short staple cotton, mainly as a result of the loss of foreign markets in Europe and the unsettled conditions in the Far East, and feels that the economic condition of the Indian cotton grower is in large part precarious and there are strong reasons for believing that it will further deteriorate unless prompt steps are taken to deal with the situation. It accordingly urges upon the Government of India to take such steps, in the interests of the cotton grower, as may be necessary, and in this connection puts forward the following recommendations :—

More Fibre per Plant

According to the "Industrial and Engineering Chemistry" of December, 1940 the cambial activity in the stem increases resulting in a relatively larger amount of secondary thickening of the fibre walls when the leaves and stems of bean plants are sprayed with napthaleneacetamide. Such response in case of fibre-producing plants remains to be determined and may possibly be applied to the commercial production of plant fibres such as flax, hemp and jute.

(1) The Government of India, in co-operation with manufacturing and trading interests, should take effective measures to expand the consumption of cotton goods, and cotton and woollen mixtures

in this country and their export overseas. These should include *inter alia*

(*a*) directions to the Department of Supply and the Indian Stores Department that, except in such cases where it is absolutely essential to ask for cloth requiring the use of long staple imported cotton, specifications for their requirements should be so framed or altered as to encourage the use of Indian Cotton ;

(*b*) representations to all Colonial and Empire Governments to ensure that India's cotton goods are admitted to those countries on the same terms and conditions as are accorded to British cotton goods ;

(*c*) the adoption of suitable measures for restricting the import of cotton goods and artifical silk yarn and piecegoods into this country ;

(*d*) the establishment by Government of a central export organisation with suitable arrangements for the inspection of goods before export and the deputation of a trade delegation to other countries for the purpose of carrying out propaganda and exploring the possibilities of introducing Indian cotton manufactures.

(2) Subject to the exigencies of war demands on shipping, more adequate facilities should be provided for the export of Indian cotton, special preference being given to short staple cotton.

(3) Foreign cotton should not be purchased by Government for sale in India.

(4) Financial assistance should be afforded to mills and the trade by Government for the warehousing or stocking of more than their normal holdings of short staple cotton.

Trade Conditions in Argentine

DISTURBED CONDITION IN JUTE TRADE

THE following is the full text of Mr. W. J. Jackman's Monthly Report, No. 36, on conditions affecting the Jute trade in the Argentine Republic :—

WITH the grain harvest rapidly becoming general and the crops promising to yield well, as will be seen from the crop news which follow, the great question of the day in Argentine business circles is where and when the produce can be marketed ; and no solution is at present in sight. For only a portion of the exportable surpluses is there a reasonable assurance of finding a market. If exports shrink business stagnation will grow.

As illustrating the discrepancy between imports and exports in Argentine foreign trade, it may be mentioned that in the month of October the value of imported goods was $115,649,000 pesos against exports of only $69,465,000 pesos ; and for the first ten months of the year there was an import balance of $69,007,000 pesos, as compared with an export balance of $210,048,000 for the corresponding period of 1939.

The Minister of Finance of the Republic, boldly facing the fact that the country's financial condition was likely to become worse in the future, recently laid before Congress a programme of finance designed to alleviate conditions. The plan in some respects is comparable with the New Deal in the United States.

It is intended to afford assistance to agriculturists by Governmental purchase of crop surpluses accumulated through the closing of European markets by the war ; and to give help to industry by loaning money to manufacturers who lack sufficient capital for development by making 15-year loans at a low rate of interest. Growing unemployment will be relieved by the extension of roads and public works, whilst at the same time the urgent housing problem will be solved by the construction of workmen's dwellings, financed on a 25-year basis.

The funds necessary to carry out the programme would be obtained by the sale of bonds, or by utilising idle bank funds by requiring commercial banks to place deposits with the Central Bank at a ratio to be agreed upon, the cash position of the commercial banks being protected in turn by Central Bank possibly through rediscount operations.

The plan is now under discussion by the Houses of Congress. Meanwhile, a special mission from the Republic is at present in the United States engaged in discussing the Argentine financial situation, especially as affected by the shortage of dollar exchange, with the Treasury and Commerce Departments, with the Export-Import Bank, and with other interested authorities. Much machinery and manufactured goods which formerly were obtained from European countries are now being supplied by the United States, which country does not see its way to balance accounts by increased purchases of Argentine primary products. Hence the shortage of dollar exchange and the enforced restriction of exchange permits for payments for some lines of imports such as motor vehicles and agricultural machinery.

Recent cables indicate that a loan of 50 million dollars has been arranged with the Export-Import Bank, another of a similar amount with the U. S. A. Finance Department; but details are unknown.

Crop News

Grain and Seeds generally are in a condition superior to normal. Wheat yields in the north, where harvesting takes place first, are described as fully satisfactory. The first official estimate of the crops will be issued in the middle of the current month. Meanwhile private calculations are very optimistic.

The old **Maize** crop is mostly still on hand, suffering deterioration, with practically no demand for export. The new crop is being planted under favourable conditions, with possibly a slight decrease in acreage.

Cotton : The volume of the crop of 1939-40 is now officially announced as being 78,593 tons, which compares with 70,891 tons in the previous season. The yield of fibre reached a record figure for this country, 31·7% being secured, against 29·4% in 1938-39.

Wool stocks on November 1 were 36,855 metric tons, which compares with 38,068 tons a month earlier.

The Jute Trade

There is practically no change to record in market conditions since last month.

Exportation of meat has suffered a further shrinkage, due to the lack of tonnage available for transport to Great Britain, almost the only outlet now for Argentine meat. Present prospects are that the frigorificos in the sheep country in the far south will not open for operation this season, as they customerily do at the time of the run of spring lambs, remaining closed during the rest of the year. It was recently announced that increased shipping space would be available during December for exports to Great Britain, and a brisker movement was hoped for, which may yet materialize. The future seems uncertain. The meat is needed and the United Kingdom apparently willing to buy ; but transportation possibilities are a doubtful factor.

Activity is dwindling in the building industry. The value of new constructions in Buenos Aires in 1938 was $153 million pesos ; in 1939 it reached $166 millions ; but it is estimated that in this current year it will not pass $120 million pesos. It is hoped that with the assistance of the National Government, as already referred to, stimulation will be given to the industry which will prevent further declines. This largely depends upon what action is taken by Congress upon the financial programme now before it.

Conditions are disturbed in the grain bag trade. As mentioned in my last report, vigorous protests were made to the authorities with regard to the increased price being demanded by the dealers for the bags necessary for handling the new crops. An investigation was ordered, which resulted in a reduction of prices being ordered under the war time measures now in force. Complaints then reached the Ministry of Agriculture that sales at the new maximum prices were refused by those controlling the supplies of bags. A further investigation was then ordered, which is now in progress; but from a statement made by the Minister it is evident that "the bag trade is not collaborating either with the Government or with the country." It is charged that speculation in bags has been indulged in by members of the trade; that sales at the official prices have been refused; and that the measures taken by the Government for the protection of the bag users have been evaded.

Jute Prices

Below is a list of New Bag prices, showing the maximum as ordered in the Governmental Decree, and the current prices as quoted on the *Bolsa de Comercio* since the Decree was issued:—

		Official maximum	*Trade price Nov. 30.*
New Maize bags	9 oz × 48″	35 centavos per bag	37c.
Barley	9 oz × 52″	37 „	40c.
Oats	9 oz × 58″	41 „	44c.
Wheat	10 oz × 47″	37½ „	39½c.
Flax	10 oz × 50″	40 „	42c.
Flour	10 oz × 52″	41 „	43½c.

Other current prices, not affected by the Decree, are as under:

Canvas	9 oz × 42″	nominal (last quotation 27½c.)
„	10 oz × 40″	„ „ „ 29½c.
„	10½ oz × 40″	30½ centavos per yard
„	16 oz × 27″	31 „ „ „
Tarpaulin	22 oz × 44″	66½ „ „ „
Special Yerba Cloth ...	17-18 oz × 40″	80 „ „ „
„ ...	17-18 oz × 36″	73 „ „ „

Best Patent Twine, 4 threads, Argentine make, $ 2·50 pesos p. kilo.
ditto Imported $ 3·50 „ „

Jute Stocks

In its investigation into the matter of the prices of bags the Ministry of Agriculture carried its enquiries to cover the stocks not only of bags but also of the material for making them, and published the following figures as at 31st October :—

	1940 (Official)	*1939 (Unofficial)*
New Bags in 1,000s		
For principal agricultural products	48,793	57,818
For other agricultural products	2,881	
For non-agricultural products	577	
Old Bags in 1,000s		
For principal agricultural products	12,222	18,562
For other agricultural products	2,908	
For non-agricultural products	1,196	
Unclassified	4,556	
Total Bags in 1,000s	73,133	76,380
Canvas (1,000 metros)	45,056	...
Canvas (1,000 bales)	...	21
Tarpaulin (1,000 metros)	3,422	...
Sacking (1,000 metros)	5,226	...
Twines and Threads		
Patent (metric tons)	243	...
Half Patent (metric tons)	5	...
Cloth („ „)	138	...
Oiled Sisal („ „)	1,205	...
Singer („ „)	3	...
Other pure threads (metric tons)	23	...

Cotton Bags may replace Jute

The Minister of Agriculture has recently named a Commission to study new uses to which cotton fibre produced in the Argentine may be put, and especially to examine the possibilities of using cotton in place of other materials at present employed, such as cotton bags instead of jute bags for containing agricultural products.

Difficulties in transportation overseas, owing to wartime conditions, both in marketing inferior qualities of Argentine cotton abroad and in importing jute for bags, giving rise to the speculative operations which the Ministry is now engaged in combating, are mentioned as reasons for the investigation and for pressing it to an early conclusion.

At the recently held 2nd Congress of Cotton Growers of the Republic, it was stated that there are on hand 28,000 tons of fibre from the last cotton crop which the producers are unable to market. Most of it is pledged to the National Bank as security for loans to the growers. The possibility of using such unmarketable surpluses at home to replace a portion of the jute annually imported by the Republic appeared to appeal strongly to the delegates to the meetings. Hence the action of the Minister of Agriculture.

The result of the investigation will be duly reported upon.

Statistical Position of Crops

The following figures giving the statistical position of Argentine crops were received from a Buenos Aires Correspondent of the Imperial Economic Committee under date, November 4, 1940 and published in the *Indian Trade Journal* of the January 30, 1941. The figures are in thousands of metric tons.

......	Wheat		Linseed	
	1939/40	1938/39	1939/40	1938/39
Third official estimate of the crop ...	3,251	9,150	1,014	1,410
Carry-over from previous crop ...	1,866	226	−5	·47
Official addition to stocks ...	750	...	...	...
Unofficial addition to stock ...	350	...	...	...
Probable underestimates ...	...	...	75	...
Total Supplies	6,217	9,376	1,084	1,457
Deduct for seed and domestic requirements	2,750	2,700	200	200
Exportable Balance ...	3,467	6,676	884	1,257
Exported to end of October ...	3,380	3,842	757	1,155
Still available for Export ...	87	2,837	127	102

The new crop of wheat has been unofficially forecasted at 7,000,000 metric tons. After allowing for the domestic consumption and seed requirement of 2,750,000 and about 1,250,000 for sale to Brazil and other neighbouring countries, a surplus of 3,000,000 metric tons would remain to be disposed of. Great Britain would take a portion of it, but with large supplies at her disposal in Empire contries it is hardly to be expected that her purchases from the Republic would be very heavy. Hence if the crop threshes out well, a surplus difficulty to dispose of, may result.

Jute Trade in U. S. A.

LAST QUARTER OF 1940

ACCORDING to a report received from the Indian Trade Commissioner, New York, the jute and burlap trade in the United States during the last quarter of 1940 was comparatively quiet, the most important influences being conditions in India and the United States. The European war was an important but indirect factor.

RAW JUTE

During October, the jute market in New York was markedly slack and little business was transacted. Buyers were reluctant to operate in the market, evidently expecting lower prices to prevail when the full weight of the Dacca tossa jute, which was not expected to come out before the end of the month, was felt. Prices of native first marks, October shipment to New York, declined steadily from the opening high of 4·90 cents (nominal) to 4·70 cents during the second and third weeks and 4·60 cents during the final week of the month. During November, however, it was the lack of suitable offerings which resulted in restricted business. While spinners here manifested fairly keen interest in jute and apparently were ready to place orders for sizable quantities of the fibre for forward shipment from Calcutta, only a moderate amount of business was done due to the limited offerings by primary shippers along with the dearth of shipping space on vessels leaving Calcutta. Buyers here were seeking the high grades of jute, mostly Dacca tossa, which, it was reported, were hard to get. This situation existed for the most part throughout the month. Prices of jute were generally firm, rising from 4·60 cents to 4·65, reaching 4·80 cents for a few days at the end of the second week. These prices, however, were nominal.

These conditions continued to prevail in the jute market during the first half of December. Dacca jute was in a seller's market, as shippers were still anxious not to commit themselves on account of uncertainty of supplies of the necessary Dacca jute. The situation, however, changed somewhat during the second half of the month when offerings were made with a little more freedom, but spinners now proved to be less desirous of buying, largely, because of the approaching year-end inventory and holiday period. Prices, still nominal, continued upward from 4·65 cents at the beginning of the month to 4·80 cents at the close, 1/10 of a cent below the high level in October.

Imports of jute from India during October, the last month for which figures are as yet available, increased markedly as compared with both the corresponding month of 1939 and the previous month of 1940, the respective figures being 3,479 tons, 241 tons and 1,497 tons. During October 1940, 29 tons of jute were imported into the United States from the Belgian Congo. No jute butts were imported during this month.

BURLAP INDUSTRY

Conditions in the burlap industry during the quarter under review were similar to those in the jute trade—limited and, at best, routine business. During October, the quietness of the burlap market was practically unbroken. Several reasons were given to account for this situation. First, buyers were said to be hesitant to order any considerable quantity of jute cloth for forward shipment from India until it was ascertained whether the curtailment of jute mill production would be extended. Second, the bag business which ordinarily develops at this time of the year, was slow in materializing, with the result that bagmakers were correspondingly hesitant to purchase burlap. Third, the spot position in New York was reported to be so exceedingly tight that bag houses and other burlap converters were keeping out of evidence as buyers of spot in so far as their requirements would permit, meantime using the goods they held in stock rather than meet the prices asked for spot burlaps. Fourth, with Election Day so close at hand, buyers of burlaps were inclined to hold aloof until after the election because of the possible influence of the outcome on the general business situation. The condition in the burlap trade

U. S. A. to Control Trade

According to a "Reuter" message, dated, Washington, the 28th January, 1941, America is about to embark on a virtual economic warfare.

According to a forecast made in authoritative quarters, the United States will shortly establish control of all American and foreign trade under a scheme which is stated to include the "freezing" of all foreign funds and a licensing scheme to cover all exports.

It is believed that an executive order bringing the scheme into effect has already been drafted, but its issue is held in abeyance pending discussion as to which Government department, or agency, shall operate it.

Meanwhile a number of Reserve Officers are being trained in what can best be described as the latest methods in carrying on economic warfare.

was aggravated towards the end of the month by repeated cable delays. Prices of burlap fluctuated only slightly during October, 10½ 40's spot burlap ex-warehouse or dock New York, which opened the month at 7·30 cents, rose to 7·35 cents during the third week declined to 7·30 cents during the fourth week, and rose in the last days of the month to 7·40.

Although trade in burlap was comparatively quiet in October, burlap consumption took a sharp spurt forward, reaching 71,000,000 yards (excluding the Pacific Coast), a gain of 11,000.000 yards over the preceding month, but still 2,000,000 yards less than the 73,000,000 yards consumed in October, 1939. Consumption in October, 1940, was larger than in any month since October, 1939. Stocks of burlap in the United States (excluding the Pacific Coast) at the end of October amounted to 129,000,000 yards on spot, against 136,000,000 yards, a month previously, and 132,000,000 yards afloat, against 148,000,000 yards, a total of 261,000,000 yards, representing a decline of 23,000,000 yards during October, but considerably higher than the total stock of 221,000,000 yards a year ago.

Imports of burlap from India also increased sharply during October as compared with October 1939, the relative figures being 47,347,300 lbs., and 20,269,326 lbs., but were less than the September 1940 imports of 54,692,270 lbs. Imports of jute bags or sacks from India, however, increased nearly four-fold during October as compared with both the corresponding month of 1939 and the previous month of 1940, the respective figures being 5,336,595 lbs., 1,449,084 lbs., and 1,553,118 lbs.

Approximately the same conditions continued to prevail in the burlap market during November. The spot position of burlap was extremely strong and when it became known that the curtailment in Calcutta mill production had been extended a month, the trade reaction was that this would lead to a further narrowing of buying here to a month-to-month basis because of uncertainty as to future policy. Emphasis was now placed on the unfavourable shipping situation in Calcutta as the cause of the tight spot position, while frequent cable delays again hampered trade. A persistent rise in prices reflected the pressure of demand for burlap, the price of 10½ 40's rising from 7·40 cents at the beginning of the month to 7·90 cents at the end.

Burlap consumption in the United States during November declined as compared with the preceding month and the corresponding month last year, the respective figures being 57,000,000 yards, 71,000,000 yards and 63,000,000 yards. United States stocks of burlap also declined, in spite of the decreased consumption, amounting to 253,000,000 yards at the end of November. This figure was higher, however, than for the corresponding month of 1939, when it stood at 210,000,000 yards.

The burlap trade during the first quarter of December was about the same as during the previous two months of the quarter. Some change was noted in the fact that buyers' demands were mainly for forwards, as they were apparently reluctant to meet the premia asked on spots. Towards the latter part of the month the market became easier but buyers now began to hold aloof as the end of the year approached and the market became essentially a holiday market. There was some feeling that the rearmament programme in the United States would bolster the demand for burlap and, for example, the Marine Corps entered the burlap market for the first time in several months, opening bids on 500,000 burlap sandbags. Cable delays were now becoming a chronic impediment to business.

The rather steady advance in burlap prices during the quarter under review merits emphasis as it caused considerable apprehension in trade circles regarding the possibility of cotton and paper being substituted for burlap. The fact that 30 per cent. of the 1940 Maine potato crop, one of the most important potato crops in the country which used to be sacked completely in burlap, was sacked in paper was given as an example of what might happen if burlap prices continued to rise considerably more rapidly than cotton or paper.

MANUFACTURE OF CORDAGE & TWINE

The United States Bureau of Census has issued a preliminary report on the jute industry in the U. S. A. in 1939, which is given below :—

The industry designated "Cordage and Twine" covers establishments engaged primarily in the manufacture of rope, cable, cordage, twine and related goods, from hemp, cotton, manila, paper and other fibres. The "Jute Goods (except felt)" industry consists in the manufacture of jute into yarn and jute goods such as bagging and webbing. The classification "Linen goods" is applied to establishments primarily engaged in the manufacture of flax yarn and thread and fabrics of linen, and linen and cotton mixture.

Wage earners primarily engaged in manufacturing in this industry group in 1939 were 17,417, a decrease of 20·8 per cent. compared with 21,988 for 1937, and their wages, 14,799,338, were less than the 1937 figure, $18,136,596 by 18·4 per cent. These decreases may be partially accounted for by the fact that the 1939 Census of Manufactures questionnaire, for the first time, called for personnel employed in distribution, construction, etc., activities separately from the manufacturing employees of the plants. It is not known how many of the wage earners for 1937 were engaged in distribution and construction and how many were engaged in manufacturing. Employees of the plants reported as engaged in distribution and construction in 1939 are not included in this report, but will be included in the final report.

The value of products of these industries for 1939 amounted to $79,880,873, a decrease of 17·2 per cent. compared with $96,478,205 reported for 1937.

Summary statistics for 1939 and 1937 are given in the following table. Detailed statistics on production will be given in a later report. All figures for 1939 are preliminary and subject to revision.

Summary for the Cordage & Twine Industry :

1939 and 1937

(Because they account for a negligible portion of the national output, plants with annual production valued at less than $5,000 have been excluded since 1919).

——	1939	1937	Per cent. of increase or decrease (–)
THE INDUSTRIES AS A GROUP.			
Number of establishments ...	147	157	– 6·4
Salaried personnel 1/ ...	1,648	1,774	– 7·1
Salaries 1/ 2/	$4,302,689	$4,420,672	– 2·7
Wage earners (average for the year) 3/ ...	17,417	21,988	– 20·8
Wages 2/ 3/	$14,799,338	$18,136,596	– 18·4
Cost of materials, supplies, fuel, purchased electric energy, and contract work 2/	$38,855,353	$53,853,474	– 27·8
Value of products 2/ ...	$79,880,873	$96,478,205	– 17·2
Value added by manufacture 4/	$41,025,520	$42,624,731	– 3·8
CORDAGE AND TWINE.			
Number of establishments ...	116	118	– 1·7
Salaried personnel 1/ ...	1,153	1,194	– 3·4
Salaries 1/ 2/	$3,086,404	$2,960,275	4·3
Wage earners (average for the year) 3/ ...	12,096	14,043	– 13·9
Wages 2/ 3/	$10,184,862	$11,682,741	– 12·8
Cost of materials, supplies, fuel, purchased electric energy, and contract work 2/	$27,721,385	$38,022,150	– 27·1
Value of products 2/ ...	$56,685,817	$66,418,385	– 14·7
Value added by manufacture 4/	$28,964,432	$28,396,235	2·0

Summary for the Cordage & Twine Industry :—Contd.

—	1939	1937	Per cent. of increase or decrease (-)
JUTE GOODS (EXCEPT FELT).			
Number of establishments ...	22	29	(*)
Salaried personnel 1/ ...	370	447	-17·2
Salaries 1/ 2/	$907,971	$1,147,639	-20·9
Wage earners (average for the year) 3/ ...	3,586	6,332	-43·4
Wages 2/ 3/	$3,118,291	$5,022,598	-37·9
Cost of materials, supplies, fuel, purchased electric energy, and contract work 2/	$7,783,357	$12,346,831	-37·0
Value of products 2/ ...	$16,897,414	$24,365,210	-30·6
Value added by manufacture 4/	$9,114,057	$12,018,379	-24·2
LINEN GOODS.			
Number of establishments ...	9	10	(*)
Salaried personnel 1/ ...	125	133	- 6·0
Salaries 1/ 2/	$308,314	$312,758	- 1·4
Wage earners (average for the year) 3/ ...	1,735	1,613	7·6
Wages 2/ 3/	$1,496,185	$1,431,257	4·5
Cost of materials, supplies, fuel, purchased electric energy, and contract work 2/	$3,350,611	$3,484,493	-3·8
Value of products 2/ ...	$6,297,642	$5,694,610	10·6
Value added by manufacture 4/	$2,947,031	$2,210,117	33·3

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*Per cent. not computed where base is less than 100.

1/ No data for employees of central administrative offices are included.

2/ Profits or losses cannot be calculated from the Census figures because no data are collected for certain expense items, such as interest, rent, depreciation, taxes, insurance, and advertising.

3/ The item for wage earners is an average of the numbers reported for the several months of the year and includes both full-time and part-time workers. The quotient obtained by dividing the amount of wages by the average number of wage earners should not, therefore, be accepted as representing the average wage received by full-time wage earners.

4/ Value of products less cost of materials, supplies, fuel, purchased electric energy, and contract work.

U. S. A. Statistics

INCREASE IN CONSUMPTION OF HESSIANS

IMPORTS of jute, jute goods and other fibres into the U. S. A. as published in the *Daily Mill Stock Reporter* and the Report of the India Government Trade Commissioner, New York, are given below:—

Commodity	September 1940	October 1940	January—October 1939	January—October 1940
Jute, Raw ...	1,497	3,508	33,054	41,718
Jute Butts ...	105	...	376	1,994
Burlap (Hessians)	25,001	21,683	158,518	191,776
Jute Bags and Sacks	837	3,387	10,158	13,968

HESSIAN STOCK AND CONSUMPTION

Hessian stock and consumption figures of the U. S. A. excluding the Pacific Coast business, as reported by the Indian Jute Mills Association are given below, the figures being in millions of yds.:—

	November		December		January	
	1939	1940	1939	1940	1940	1941
Stock	240	253	264	259	231	269
Consumption	63	57	53	53	55	57

NEW YORK PRICES

Average prices of jute and a few substitutes are given below. Some of these figures have been supplied by the U. S. Department of Labour and the rest have been calculated from the daily quotations published in the *Daily Mill Stock Reporter* of New York.

Commodity	Unit	Sept. 1940	Oct. 1940	Week ending in			
				Nov. 9	Nov. 16	Nov. 23	Nov. 30
Jute raw, Medium grade	Cents per lb.	4·8	4·5	4·8	4·5	...	4·5
Hemp, Manila	,,	6·1	6·5	9·0	9·0	...	8·6
Sisal, Mexican	,,	3·9	3·2	3·0	3·0	...	3·0
Binder Twine	,,	8·3	8·3	8·3	8·3	...	8·3
Rope, pure Manila (¾ inch or larger)	,,	15·9	15·5	15·5	15·5	...	15·5
Kraft paper No. 1 (unbleached)	,,	3·4	3·4	3·4	3·4	3·4	3·4
Burlap							
8 oz. × 40″	Cents per yd.	5·3	5·6	5·9	5·9	...	5·9
10½ oz. × 40″	,,	7·1	7·3	7·5	7·7	...	7·9
Osnaburg							
36″, 2·85	,,	6·3	6·8	7·1	7·1	7·2	7·4
40″, 2·05	,,	8·9	9·3	9·4	9·4	9·6	9·8
Fertiliser Bags							
Jute, 100 lb.	Cents per bag	8·2	8·4	8·8	8·9	8·9	8·9
,, 200 lb.	,,	12·0	12·4	12·9	13·1	13·2	13·4
Cotton, 100 lb.	,,	8·0	8·7	9·0	9·0	9·2	9·4
,, 200 lb.	,,	15·4	16·1	16·4	16·4	16·6	17·0

Sales of Floor-Covering in 1941

A FORECAST

JUTE yarn manufacturers face an active year in 1941, judging from the prediction for a 17 per cent. increase in floor-coverings sales made by Percy Wilson, Managing Director of the Chicago Merchandise Mart, upon completion of a premarket check-up with manufacturers represented in the mart, reports the *Daily Mill Stock Reporter* of New York.

"Wholesalers, confident that there will be an increase in both yardage and dollar-volume, estimate retail sales will total $435,530,221 during 1941," Mr. Wilson said.

Domestic manufacturers, he predicted, would benefit by the shortage of finished imported goods in 1941, as surplus stocks in retail stores and wholesalers' warehouses are rapidly diminishing. The floor-covering industry will find new business among the increasing number of new home builders, which building authorities predict will increase 100,000 over the 400,000 homes built during 1940.

Rug manufacturers estimate that 65,000,000 square yards of soft-surface floor covering will be sold during 1941, a 9,000,000 square-yard increase over ths total sold in retail stores during the past twelve months.

Hard-surface floor covering manufacturers are preparing for a 10 per cent. increase in volume in the new year. Total retail sales in this division should reach $220,530,221 in 1941, it was estimated.

Swedish Flax and Jute Industry

A SURVEY

According to a survey recently made, states the *Jute Review* of October, 1940, the jute, flax and hemp industry of Sweden comprises one flax spinning mill, with an output value in 1938 of 3,123,000 kr., six flax weaving mills with an output value of 7,780,000 kr., one combined flax mill with an output value of 4,167,000 kr., five jute spinning mills with an output value of 7,668,000 kr., making 13 undertakings in all with a total of 2,838 workers and an output value of 22,738,000 kr. Associated industries include 49 manufacturers of tape, cords and curtains with an output value of 10,951,000 kr., 14 roperies with an output value of 8,058,000 kr., 24 manufacturers of awnings, tarpaulin and similar goods with an output value of 3,782,000 kr., and 7 manufacturers of roller blinds with an output value of 2,453,000 kr.

Jute Freight Rates

According to the "Indian Trade Journal" of January 30, 1941, the present freight rate for jute exported from India to the ports of British Isles is £4 per 50 cub. ft. of space. A surcharge of 15 per cent. has been levied and a rebate of 10 per cent. not exceeding 5s. per ton is allowed.

A leading firm in Sweden's jute spinning and weaving industry is *SkandinaviskaJutespinneri och Vafven Aktiebolaget*, Oskarstrom. The company was founded as a joint-stock enterprise with a capital of 1,200,000 kr. on June 28, 1889, and the mill began operating at the beginning of April, 1890. Last year the production of the jute department comprised jute yarn to a total value of 3,915,784 kr., 2,054,500 jute sacks and 7,269,500 metres of other jute fabrics. The flax department turned out 3,752 tons of yarn and 1,368,200 metres of linen textiles.

Jute and Substitutes

INDEX NUMBER OF MID-MONTHLY PRICES

THE following index numbers of prices have been prepared from figures published in the *Daily Mill Stock Reporter* of New York. They only show the variations of prices as compared with the base period.

(*Base: August, 1939 = 100*)

Commodity	Sept. 1940	Oct. 1940	Nov. 1940	Dec. 1940	Dec. 1939	Dec. 1938
JUTE, RAW :						
Native Firsts ...	107	104	104	107	222	89
MANILA HEMP :						
Davao F ...	117	129	161	136	153	97
Davao G ...	120	150	182	143	145	105
SISAL :						
Java A ...	107	85	85	85	129	100
African ...	141	138	138	138	135	100
ISTLE :						
Palma ...	119	100	100	100	158	100
Tula No. 1 ...	111	111	109	109	122	100
BURLAP :						
8 oz. × 40″ ...	123	130	137	142	179	93
10 oz. × 40″ ...	128	134	140	149	191	91
10 oz. × 36″ ...	155	160	170	175	245	110
OSNABURG :						
36″, 2·85 ...	103	111	116	121	126	89
40″, 2·05 ...	116	121	122	129	131	96
KRAFT PAPER :						
No. 1 ...	179	179	179	179	111	100

Future of Jute

EXPLORATION OF NEW FIELDS OF USE

THE following article by Mr. C. R. Nodder, Director, Technological Laboratories, Indian Central Jute Committee, reproduced from the *Applied Chemistry Students' Re-union Annual* gives an idea as to the possibilities of jute in different new fields which have not yet been fully explored :—

"It is common knowledge that the main use of jute at present is for the manufacture of sacks and bags of various types. It is also used in fair quantities for the manufacture of backing for linoleum, for carpets, twine and cheap materials for awnings and deck chairs. In the field of clothing it has only a limited use at present. It is used for interlinings (where its springiness is an advantage) and to a small extent bleached jute yarns have been used as the weft of "union" cloths, with a linen or cotton warp, intended for tropical suitings and the like. One of the disadvantages of jute, particularly bleached jute, for clothing is that it does not stand up very well to repeated laundering.

"Nevertheless there is scope for further research into the possibility of using fine jute yarns in clothing materials. Twisting the jute yarn with silk, flax, wool, cotton or rayon or making yarns from these fibres blended with jute may overcome the poor behaviour in laundering. The reason for this poor behaviour is that the individual jute fibres are only about 3 millimetres long. In the raw fibre these are held together by natural cementing materials but bleaching and laundering removes these materials and the twist in the yarn cannot then hold the fibres together satisfactorily. The yarn thus becomes very weak, particularly when wet. Research might be done on the introduction of an artificial flexible cementing material, perhaps a synthetic resin, into the bleached yarn. The possibility of using jute in the production of tweed-like materials for out-door wear does not appear to have been fully explored. Here the removal of the rather 'scratchy' character of jute cloth and the production of a soft finish would be necessary. And the typical smell of hessian should be replaced by the smell of a Donegal or Harris tweed.

"There is also room for investigation into the production of attractive fast-dyed furnishing materials, at an attractive price, from jute, either alone or in conjunction with other fibres.

"Jute has been used to some extent as a reinforcing material for cement in the construction of buildings ('Nofrango' System). An extension of such uses appears possible, as in the lining of canals and the construction of roads. It may also find an increased demand as a fibrous reinforcement for various types of synthetic resins in the production of boards suitable for internal decoration and other purposes. The cheapness of the fibre gives it an advantage over other fibres (cotton, flax) for such purposes.

"Jute twine is weaker than hemp twine and considerably weaker than flax twine. There is need for research into methods of producing stronger twines from jute by special treatments and into methods of producing twines finer than those now available. There are many miscellaneous applications in which jute might find an extended use, as in shoe manufacture and book-binding. An extended use of jute for filter cloths might also be possible if the best structure of cloth for this purpose were scientifically investigated. Jute fibre of high quality has a very good natural lustre and investigations directed towards the exploitation of this lustre in manufactured articles seem desirable. At present the lustre is lost owing to the lack of parallelism of the fibres in the yarn and, to same extent, by the action of the oil added in manufacture."

Jute Mills In Egypt

SUBSTITUTION OF JUTE BY COTTON ?

ACCORDING to the Indian Government Trade Commissioner, Alexandria, the project for the establishment of jute mills in Egypt has been kept in abeyance indefinitely.

It is further reported that importers are experiencing difficulties in obtaining sufficient quantities of jute sand-bags, cotton packs, sacks for cereals, etc., to meet the needs of the country. As a result of this the Government as well as the merchants interested in this trade have been enquiring into the possibilities of substituting jute goods by such articles manufactured from cotton. From varying reports received by the Trade Commissioner as to the success of the experiments made in this connection, he considers it too early as yet to say anything definite at the present stage. Many of the persons concerned are of opinion that if jute manufactures continue to go to Egypt as they have been doing recently they are not likely to be replaced by cotton manufacture which are more costly. It is understood, however, that sand-bags and sacks are being made in Egypt from jute cloths imported from India.

Sisal Cultivation in Indo-China

GOVT. HELP TO GROWERS

ACCORDING to the *Daily Mill Stock Reporter* of December 3, 1940 the Government of French Indo-China has issued a decree which provides that exporters of sisal from French Indo-China will be granted a quarterly bonus and that loans of 300 French francs per hectare (2.471 acres) will be given to planters of sisal, in order to enable them to improve their plantations. Plantations having less than 2,500 plants per hectare will not benefit by these loans.

Planters whose annual production of sisal in 1940, 1941 and 1942 exceeds by an average of 50 per cent. their 1939 production will be exempted from re-payment of the loan. If the increase in production does not reach 30 per cent. the loan will have to be refunded entirely within three years, the first instalment to be paid in 1943 ; if the gain in production averages 30 to 39 per cent. 50 per cent. of the loan will have to be refunded and if the increase is from 40 to 49 per cent. 25 per cent. of the loan must be repaid.

Loans of 1,500 francs per hectare (1,000 francs the first year, 250 the second, and 250 the third year) will also be made to planters who wish to extend their plantations. These loans are to be refunded in four years, the first payment to be made the fifth year from the date the loan is granted. Planters who obtain such loans will work under the supervision of agricultural inspectors.

Mexican Henequen

FIXATION OF MAXIMUM PRICES

THE *Henequeneros de Yucatan* has announced a schedule of maximum prices at a bit higher level effective from November 19, 1940, for the purpose of advances to the *ejidatarics* (commercial farmers) on henequen fibre delivered to warehouses in Progreso and Marida. The new prices are as follows for fibre delivered to the warehouses of aforementioned co-operative :

Grade	Price - Peso per Kilogram	
	at Progreso	at Merida
A ...	0·220	0·200
B ...	0·205	0·185
B-1 ...	0·190	0·170
C ...	0·175	0·155
M ...	0·165	0·145

The co-operative had previously made a statement that any benefits from a reduction in taxation would immediately be passed on to the farmers, and the higher prices are assumed to be attributable to the reduction in export taxes on henequen fibre and manufactures therefrom which became effective after November 20, 1940. Press reports stated that clean and soiled fibre will be subject to a tax of 12 p.c. on a valuation of 13 centavos a kilogram while binder twine, other twine and rope will be exempt from export tax.

The new price schedule is expected to result in a corresponding advance in the price of fibre sold to local cordage mills and for export.

The Industrial Fibres, a publication of the Imperial Economics Committee, of 1939 published the following figures as regards the acreage under the fibre, its production and exports :—

——	1934	1935	1936	1937	1938
Acreage (000 acres) ...	155	190	207	232	—
Production (000 tons) ...	72	84	110	113	80
Exports from Mexico (000 tons) ...	67	88	101	76	57

According to the *Foreign Commerce Weekly* total exports from Progreso during the first ten months of 1940 were 40,226 metric tons. Stocks at the two exporting ports Progreso and Merida were 95,838 bales at the end of October. Some reduction in stock is, however, anticipated as the result of a reported sale of 14,000 bales of class A fibre to the Swedish Reserve Supply Board.

Exports of manufactured henequen products in metric tons during the first 10 months of 1940 are given below :—Binder twine —5021, other henequen twine—2263, henequen rope—825, henequen sacks—141, henequen cloth—15.

Manila Hemp or Abaca

STEADY ADVANCE OF PRICES

According to reports published in the *Foreign Commerce Weekly* 1,269,475 acres of land were put under abaca in 1939-40 as compared with 1,278,715 acres in 1938-39. The production in 1939-40 is estimated at 3,009,300 piculs of 139·44 lbs. each which compares with 3,005,780 piculs produced in 1938-39.

The market was extremely firm throughout September, October and November. Fairly substantial purchases by various agencies of the United States Government, heavy buying by the Japanese and heavy buying by London for early delivery to various destinations were responsible for this firmness. There was also a substantial reduction in local stocks and this led to considerable activity, largely of a speculative nature, in the Philippine market. Prices moved steadily upward; the advance covered all grades but was particularly marked in the better cordage grade. Details of a few grades are given in the table below. The prices are for the ends of the months of 1940.

NOMINAL PRICES OF LOOSE ABACA

(Pesos per picul of 139·44 lbs.)

Grade	f. a. s. Manila			f. a. s. Davao		
	Aug.	Sept.	Oct.	Aug.	Sept.	Oct.
F	8·25	8·50	10·00	10·50	14·00	17·50
I	7·75	8·00	9·50	10·25	13·75	16·50
J-1	6·75	7·00	8·00	8·50	12·00	14·75
G	5·75	6·00	7·00	6·75	11·00	14·00
H	5·25	5·75	6·25	...	...	10·50
K	4·50	5·25	6·00	...	...	10·50

Woolpacks from New Zealand Flax

GOVERNMENT TAKES CONTROL

ACCORDING to a report of the American Consul-General, Wellington, published in the *Foreign Commerce Weekly* of October 26, 1940 the manufacture of woolpacks from New Zealand flax is to be expanded. The New Zealand Minister of Finance announced on July 18, 1940, that the Government had decided to take over control of New Zealand Woolpack and Textiles, Ltd., and to increase the yearly capacity of the plant from about 300,000 woolpacks to 800,000 in 1941-42, in order to curtail imports of jute woolpacks from India.

During the first five months of 1940, 16,382 doz. woolpacks were imported into New Zealand as against 6,857 dozen imported during the same period of 1939. An estate at Foxton is being acquired for the planting of *Phormium tenax* (New Zealand flax) to supply raw material for the plant. The woolpacks made locally are reported to be somewhat higher in price than the jute article imported from India.

Jute Growing in Russia

According to the "Daily Mill Stock Reporter" of December 3, 1940, the All-Union Institute of Plant Cultivation has for the past 13 years been carrying on experiments in the cultivation of jute in the U. S. S. R. and has proved that this important industrial crop can be grown successfully in the Soviet Union. From among 150 varieties imported from India and various other tropical and sub-tropical countries and planted by the Institute in certain districts of Transcaucasia and Central Asia, the varieties "Corchorus capsularis" and "Corchorus olitorius" have been selected. These plants yield 13 to 25 per cent. of fibre, and produce a crop of seeds, which will make it possible to cultivate jute in the U. S. S. R. on an industrial scale. At present the Institute is trying to acclimatize varieties with a greater yield.

Substitution of Jute by Cotton

ENCOURAGEMENT BY BRAZILIAN GOVERNMENT

ACCORDING to the *Foreign Commerce Weekly* the Minister of Agriculture, Brazil, has requested the State Secretaries of Agriculture to encourage the use of cotton for the packing of raw cotton, cereals, and other products for which burlap is usually employed. Owing to the simultaneous decline in cotton prices on the one hand, the rise in the price of jute and burlap on the other, the time is considered opportune to increase the use of cotton for this purpose. The 1940-41 cotton crop for North Brazil is placed at 716,000 bales of 478 pounds each in the first official estimate by the Ministry of Agriculture of Brazil. This estimate is nearly 90,000 bales larger than the 1939-40 crop. Lack of shipping space is reducing sales to foreign countries. The Spanish Cotton Board awarded contracts during August, 1940 to four Brazilian cotton firms covering purchases of 150,000 bales.

Bags from Rosella Fibre

According to the "Foreign Commerce Weekly" of December 14, 1940, production of bags from rosella fibre in Central Java (in the disirict of Djocjakarta) is reported to be progressing favourably, owing principally to large military orders placed by the local Government. A part of the output is exported to British India, and the local press reports that some commercial orders have been received from the United States.

Flax Fibre

II—COMMERCIAL POSITION IN INDIA

[*The first instalment of this series appeared in the January issue of this Bulletin*]

THE consumption of flax in India is insignificant compared with that in other parts of the world. All the flax requirements of India are imported from abroad. Consumption of raw flax in India is negligible, while that of flax manufactures is also comparatively small. The average yearly consumption of flax manufactures. is about 700 tons only, two-thirds of which is canvas, as may be seen from the following table :—

TABLE I

Imports of Flax Manufactures into India

—	1936-37	1937-38	1938-39	Approximate average tonnage*
Twist and yarn (000 lbs.) ...	25	37	32	14
Canvas (000 yds.) ...	946	1,005	825	463
Piece-goods (000 yds.) ...	288	342	163	33
Sewing thread (000 lbs.) ...	53	77	75	31
Other sorts (000 lbs.) ...	308	383	348	155
Total (tons) ...	...	...	...	696

Not more than 6,000 acres of land will be required to grow flax sufficient to meet the Indian demand. It is clear, therefore, that if flax is grown in India on an extensive scale, it will have to find its market abroad. There is, however, a possibility for increased consumption of flax in India. Recently, the Indian Central Jute Committee have had under consideration a scheme for carrying out experiments on the blending of flax with jute for the manufacture of clothing, curtains etc. In this respect flax will have to intrude upon the ground so far monopolised by cotton and will be hard put to it to find a decent market at a competitive price. The possibility of importing suitable machinery and developing linen manufactures in India cannot, however, be ruled out.

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* In calculating tonnage, 2,000 yds. of canvas or 8,000 yds. of piece-goods have been taken as one ton.

EXPORT MARKET FOR FLAX

There is a large world market for flax. Of the total world production of flax more than 40 per cent. is exported. The following tables give the trade in flax of the chief importing and exporting countries :—

TABLE II

Retained Imports of Flax (Fibre and Tow)

(In thousands of tons)

Countries	1931	1932	1933	1934	1935	1936	1937	1938*
U. K. ...	43	49	51	61	56	66	56	58
France ...	33	30	40	24	29	31	30	33
Germany ...	10	14	17	31	21	10	17	18
Czechoslovakia ...	9	16	10	20	15	15	14	7
U. S. A. ...	3	3	5	3	5	6	5	1
Sweden ...	2	1	1	2	2	3	2	3
TOTAL ...	100	122	124	141	128	131	124	120

TABLE III

Exports of Flax (Fibre, Tow and Waste)

(In thousands of tons)

Countries	1931	1932	1933	1934	1935	1936	1937	1938*
Belgium ...	41	39	46	51	46	48	51	59
Soviet Union ...	77	81	85	90	58	56	34	20‡
Poland ...	6	6	4	6	12	20	16	11
Lithuania ...	7	9	6	10	10	19	16	19
Netherlands ...	2	2	4	6	7	7	8	9
Latvia ...	14	8	4	6	8	16	7	11
Estonia ...	4	4	3	4	5	8	6	6
TOTAL ...	151	149	152	173	146	174	138	135

* Provisional.

‡ January to October.

Table II shows that the United Kingdom is the largest importer of flax. Nearly half the total imports goes to the United Kingdom. Table III shows that the chief exporting countries are those which are at present either occupied by Germany or whose trade with the United Kingdom is already seriously affected by the war. As a matter of fact, nearly half the total imports of flax fibre into the United Kingdom in 1938 came from Belgium which is now under German control. The United Kingdom, being thus cut off from her chief sources of flax, will provide an important market for flax grown in India.

U. K. AS A MARKET FOR FLAX

The countries within the British Empire other than the U. K. import very little flax. The U. K. is the largest importer of flax as well as the largest exporter of linen manufactures. But the Empire's flax resources are relatively small. The total area under flax in the Empire was 33,000 acres in 1937 giving a total yield of 8,000 tons of fibre. Flax grown in the U. K. amounts to less than 10 per cent. of the total requirements of that country. Thus the linen industry of the U. K. has to depend for its raw material requirements almost entirely on countries outside the British Empire. This has confronted the British industry with difficulties. Special steps were, therefore, taken by the British Government for a considerable extension of the flax acreage in England and Scotland in 1940. Unretted or "green" fibre, which hitherto found little favour in any country, was to be delivered to processing factories for the manufacture of heavy linen goods. A Government grant of £2 an acre was sanctioned to encourage the cultivation of flax on old and worn-out pastures. All this clearly shows that India can get a large and ready market for flax in the U. K. if she can take advantage of the present situation and grow the right quality of flax.

OTHER MARKETS FOR FLAX

Flax grown in India may also find a market outside the Empire. The restricted world supplies of flax are limiting the expansion of the consumption of the fibre. Moreover, the Soviet Union, which grows nearly 70 per cent of the total world production of flax, is gradually restricting her export of flax owing to the increasing consumption of the fibre at home.

TABLE IV.

Soviet Production, Consumption and Exports of Flax

——	Unit.	1932	1933	1934	1935	1936	1937	1938
Production ...	1,000 tons ...	492	551	524	542	522	561	537
Exports	,, ...	81	85	90	58	56	34	29*
Balance available for consumption ...	,, ...	411	466	434	484	467	527	503
Output of Linen industry	Million Sq. yds.	155	168	183	255	341	359	330

Considerable progress has been made in the mechanisation of the linen industry in the Soviet Union, and further improvement in capacity was a part of the plan in 1938. As a result of this, exports of flax from the Soviet Union have been gradually shrinking. At the end of 1938 the Soviet Union declared her inability to export any but the commonest qualities of flax, which are of limited interest to the manufacturers of linen goods. The recent inclusion in the Soviet Union of the eastern parts of Poland and the flax-producing countries of the Baltic will further cut down the supply of flax to the rest of the world. India may seize this opportunity for growing flax and capture the markets which used to be supplied by the Soviet Union.

QUALITY OF FLAX

Flax growing in India should aim at producing a fibre of at least medium quality. This would have a big demand in the United Kingdom and other countries producing linen goods. Some of the flax recently grown by the Department of Agriculture, Bengal, compared well with good Irish flax, and the fibre grown in Assam in 1913 was considered nearly as good as the Belgian fibre. Thus it has been shown that flax of at least medium quality can be grown in India.

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* Estimated.

To obtain fibre of good quality particular attention is necessary to the following points :—

(*a*) Location of land for sowing, with due regard to the possibilities of irrigation,

(*b*) Preparation and manuring of the land,

(*c*) Choice of seed variety,

(*d*) Date and rate of sowing,

(*e*) Stage of ripeness when crop is pulled,

(*f*) Careful retting (fibre from first class straw may be rendered worthless by improper retting),

(*g*) Drying after retting and

(*h*) Proper scutching.

Production of quality flax being the ultimate object, it will be much better if the straw is purchased from the cultivator and stored in a central godown for retting and scutching. Products of about 300 acres may be dealt with in such a central place or mill. It may be mentioned here that, in Ireland, the cultivator does the retting but not the scutching, which is carried out in special scutch mills; and, in Belgium, the grower pulls out the plants and sells them to the dealer on the field. In none of these cases, is the freight for carrying the straw or retted flax to a central place considered to be a waste of money. On the contrary, it has sometimes been found economical even to transport flax straw from the north of Holland, where some of the best flax is grown, to the river Lys in Belgium for retting.

COST OF PRODUCTION OF FIBRE

The cost of production is likely to vary from Rs. 60 to Rs. 100 per acre. The yield per acre may vary from 3 to 5 mds. of fibre. Mr. J. K. Sarkar, late Fibre Expert to the Government of the Punjab, estimates the cost at Rs 66 and the yield at 4 mds. of fibre, 1.5 mds. of tow and 4 mds. of seed per acre. During the last three years Belgian flax had been selling at more than £100 per ton and according to Mr. Nodder, Director, Technological Research Laboratories, Indian Central Jute Committee, flax can be produced in India that will fetch about £60 per ton in a fairly normal year.

At this rate (£60 per ton) baled flax should be sold in Calcutta at least at the rate of Rs. 27 per maund. This rate should give the cultivator at least Rs. 20 per md. or (20 × 4) Rs. 80 per acre, in addition to the price of seed and tow which may be placed at (5.5 × 6) Rs. 33. This gives a total income of Rs. 113 against an expenditure of Rs. 66 per acre. These figures are based on Mr. Sarkar's data, and represent the costs and income appropriate to production on a small scale in a village farm. If, however, the straw is transported, retted and scutched at a central place under factory conditions, the cost may go up to Rs. 100 per acre. But this process may give a better yield of the fibre, both in quality and quantity, and the increased cost may be compensated for by an increased return.

The estimates given above are definitely conservative. But it should be remembered that the Indian cultivators have no experience in growing flax and may not be able to grow flax as good as that produced by the Department of Agriculture.

(*To be continued*)

Industrial Fibres

PRODUCTION AND TRADE NOTES

African Sisal

Exports of sisal fibre and tow (mostly of Kenya origin) from Kenya and Uganda during the first half of 1940 were valued at £349,100 (sterling), an increase of £105,183 over the value of similar exports in the first six months of 1939, states the *Foreign Commerce Weekly* of December 14, 1940. Notwithstanding the gain in exports, large stocks of fibre and tow were on hand in mid-September, with holders reported seeking a market.

Sisal from Haiti

According to the *Foreign Commerce Weekly* sisal exports from Haiti from October 1, 1939 to September 20, 1940 aggregated 7,581 metric tons as against 7,492 metric tons exported during the 12 months ending September 30, 1939.

Sisal from Netherlands Indies

Exports of "hard rope fibres," chiefly sisal from Java and Madura totaled 19,162 metric tons during the first seven months of 1940, states the *Foreign Commerce Weekly.* Exports of hard rope fibres from the Outer Possession of the Netherlands Indies during the same period amounted to 30,616 metric tons.

Italian Hemp

The area sown to hemp in Naples Consular district during 1940, states the *Foreign Commerce Weekly*, approximated 79,000 acres, which is slightly higher than the 1939 acreage. About one-third of Italy's hemp is grown in the Departments of Campania, Apulia, Lucania and Calabria (in Naples Consular district), where the yield during 1940 is estimated as approximately 10 per cent. greater than 1939 crop of 45,000 metric tons. About two-thirds of the 1940 crop is reported to be of good quality. The new hemp crop has been moving regularly to the Government collection centres since early September. Stocks of old hemp are reported to be nearly exhausted.

Chilean Hemp and Flax

According to the *Foreign Commerce Weekly* Chile exported the following tonnage of fibre to the U. S. A. during the first 7 months of 1940. Flax fibre—150, Flax tow—107, Hemp fibre—101, Hemp tow—15. No flax or hemp fibres were exported to the U. S. A. during the same period of 1939.

Austrian Flax

The area sown to flax in Ostmark increased from 4,942 acres in 1939 to 7,413 acres in 1940, states the *Foreign Commerce Weekly*. Modern machinery is being placed at the disposal of flax producers by agricultural co-operatives. In 1939 the flax crop had to be shipped to Bavaria for retting, but this year's crop was handled at a newly built plant in upper Austria.

Egyptian Flax

Increasing the flax acreage in Egypt is under consideration and interest is hightened by reports of a shortage of flax in the United Kingdom as a result of the cutting off of Continental European sources of supply, states the *Foreign Commerce Weekly*. The area planted to flax in Egypt in 1938 was 9,600 feddans (9,965 acres) and the average yield per feddan amounted to 396 pounds of flax and 14 to 17 bushels of flax seed. The Ministry of Commerce and Industry stated that lack of facilities for processing the fibre was one of the reasons why flax cultivation had not been developed to a greater extent. The present high prices will be a strong incentive to increase the acreage in 1940-41 if the necessary seeds can be procured in time.

Monthly Notes on Progress of Schemes

THE following is a short review to indicate the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

The whole of last week of January was taken up by the half-yearly meetings of the Indian Central Jute Committee. The meetings of the technical Sub-Committee, *viz.*, the Technological Research Sub-Committee, Agricultural Research Sub-Committee and Statistics and Information Sub-Committee were held in conjunction with the main Committee. A brief summary of the proceedings of the Main Committee will be found on pages 662—666 of this *Bulletin.*

The proceedings of the meeting have been circulated to the members and action on the various recommendations and decisions of the Committee is now being taken.

A meeting of the Special *ad hoc* Sub-Committee which was appointed by the Indian Central Jute Committee to re-examine the detailed scheme for the extension of the Technological Research activities was held on February 15, 1941. The recommendations of this Sub-Committee will in due course be placed before the Local Sub-Committee of the Indian Central Jute Committee.

Marketing and Transport

The preliminary drafts of all chapters of the Second Report were completed and sent out to the Marketing Publications Sub-Committee during the course of the last four weeks. This work kept the full staff occupied throughout the period under report.

There has been a fairly steady demand for copies of the First Marketing Report from overseas, particularly America. One New York merchant purchased twelve copies for circulation to his agencies in the States. Total sales up to 10th February were about 400 copies.

Agricultural Research

During the last season there were 123 *Olitorius* selections in preliminary tests. Records regarding the outturn of fibre, height, and thickness of stems and fibre content were obtained for each of these 123 selections. If rejections were to be made only on the basis of out-turn of fibre, only 18 selections deserve to be carried forward. But in order to find out whether such characters as fibre content, plant height, and thickness of stem can be made the basis for selection, it is proposed to carry forward 30 additional selections. Of these 14 have been selected because they have higher fibre content. Incidentally, it may be mentioned that there is one selection which is good in yield, fibre content, height and thickness of stem.

In the *Capsularis* first stage trial there were 25 cultures of plants. The following is the performance of the eight best cultures.—

Culture No.	*Percentage yield of fibre on control*	*Percentage fibre content on control*
23	183·9	118·9
3	178·2	113·4
14	175·5	118·5
25	173·1	116·5
17	169·2	105·9
6	167·0	105·5
1	159·3	108·4
15	158·7	93·8
D. 154	100·0	100·0

The culture No. 23 is best both in yield and fibre content. The increased yield of fibre is to a greater extent due to the increase in green weight, the fibre content playing relatively a less important role. Whether culture No. 15 which is rather low in fibre content, can be improved by crossing it with culture No. 23, remains to be seen.

In the *Capsularis* second stage trial the fibre percentage of 14 strains ranged between 5·42 to 6·56 per cent. Three strains had higher fibre percentage than D. 154, but the differences were not statistically valid.

Observations on hibernation of jute apion were carried out. They confirmed last year's results. It was further noticed that if suitable host plants are available the weevil continues to breed even during winter. The self-sown jute plants were heavily attacked by the apion and all stages of this pest were found on them.

Technological Research

The spinning and testing the fibre samples forwarded from the Jute Research Laboratories, Dacca, continues and it is anticipated that the results will be ready before sowing time comes round again.

Further work has been carried out on the causes of the colour of dark grey (*shamla*) jute and methods of restoring a normal colour in such fibre.

In the experiments on the uronic anhydride content and furfural yield of jute cuttings 20 samples ranging from soft and free from bark to hard and very barky have been analysed. The furfural yield appears to show no correlation with the character of the cuttings but the uronic anhydride content was 2·44% in the case of barky and stiff material (mean of five) and only 1·16% in the case of soft cuttings free from bark (mean of five). For the same set of samples the mean loss in a standard alkaline boil was only 14·55% for the soft non-barky cuttings and as high as 32·0% for the stiff, barky cuttings. The extreme range for the 20 samples was 13·2 to 37·2% loss. The possibility of assessing the value of cuttings on the basis of chemical analysis is thus indicated. It is proposed to follow this up by comparing the analytical results with the results of spinning trials.

The measurement of the fibre characters of a further series of fibre samples for which the results of spinning trials are available has been taken up. Work is in progress for the perfection of a method of measuring the density of fibre by a weighing-in-oil method.

Economic Research

The possibility of the existence of a curvilinear correlation between prices and exports of jute manufactures was investigated. The question of lag was also taken into consideration. But the scatter diagram did not suggest the existence of any such correlation, and the correlation analysis was not, therefore, undertaken.

Further investigation of fluctuation of jute prices was undertaken. Movement of deflated prices, that is, prices corrected for changes in the general price level, was studied in relation to the changes in the demand for jute manufactures. Simple and multiple correlation analyses were done, which, however, failed to establish any simple relation between demand and price.

Deflated prices were also used to study the movement of raw jute prices. The factors, whose influence on price was studied, were the yield of the jute crop, exports of raw jute and purchase of raw jute by the Association mills. Changes in stocks of raw jute could not be taken into consideration for want of necessary data regarding stocks. A multiple correlation analysis with three independent variates was attempted, but no significant result was obtained.

Further investigation of the movement of jute prices is in progress.

Publicity

It was decided at the last meeting of the Committee that the *Bulletin*, which has so long been distributed free to various interests, should be converted into a priced publication with effect from the next financial year. The subscription rates will be Rs. 5/- per annum, and -/8/- per copy, postage extra. Preliminary work in this connection is under way.

Work in connection with press propaganda has proceeded along the usual lines and the result has been encouraging. The Price Dissemination Service was discontinued from the 1st of this month on account of the "fixed prices" prevailing in the Calcutta market, and the authorities who used to receive these quotations at their destinations in Bengal, Bihar and Assam were informed accordingly.

The present position with regard to the issue of a Bengali version of the Triennial Report of the Committee is that the Bengali draft is under revision by the Secretary.

Corrigenda

Bulletin No. 10, Vol. III.

P. 600, line 12, read "Indian Jat, Middle ... Rs. 8/4/-"
for "Indian Jat Middle ... Rs. 8/-"

P. 600, line 19, read "Indian District Tossa"
for "Indian Jat Tossa"

P. 601, line 3, read "N/C at Rs. 15/- per bale"
for "N/C at Rs. 10/- per bale"

P. 639, line 8, read "provided they are not too heavy"
for "provided they are too heavy"

P. 640, line 21, read "Linen Industry Research Association of Lambeg, Northern Ireland" for "Linum Industry Research Association of Lambeg, England"

P. 642, line 20, read "Buffing or breaking the boon"
for "Butting or breaking the boon"

5. OCT. 1943

INDIAN CENTRAL JUTE COMMITTEE

Bulletin No. 12.

Vol. III.

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CONTENTS

Subject ... Page

Indian Prices during February 712
Monthly Variation of Exports 714
Production and Stock of Jute Goods 715
Bengal Jute Restriction Scheme 716
New Orders for the Jute Industry 716
Jute Restriction in Assam 720
Jute Futures Market: Prof. Todd's Interim Report (Detailed) 721
Annual Meeting of I. J. M. A. 729
Two More Trade Commissioners 737
Muslim Chamber's Annual Meeting 740
Trade Conditions in Argentine 741
U. S. A. Statistics 745
Cotton Bagging for Cotton 747
Cotton and Jute Bag Industry in Canada 748
Proposed Sack Factory for Cuba 748
U. K. Jute Markets 749
Jute Import Restriction 751
Export drive in Textiles 752
Mid-monthly Prices of Jute & Substitutes ... 753
Chile restricts Imports of Jute 754
Distribution of Flax & Jute in Japan 755
A New Flax Substitute 755
Rot-proofing of Sandbags 756
Jute Sheeting for Wagon Covers 757
Preparing Jute as Flax Substitute 758
New Use for Jute Canvas 762
Jute in Felt Production 762
Increased Use of Caroa 763
Sisal Problems 765
Crop Failures Diagnosed Free 767
Monthly Notes on Progress of Schemes 768
Conversion Table ... ... *Inside Back cover.*

Indian Prices During February

MARKET DULL

THE general undertone of the **loose jute** market during the month remained dull. Sellers were anxious for business and were, at one time, willing to discount agreed minimum rates in order to attract buyers.

Mills made a moderate amount of purchases : in the first week, they bought Indian District Tossa Middle and Bottom, 20/80 assortment, at Rs. 7/12 and Rs. 6/- per md., respectively. In the second week, European Middle and Bottom, 20/80 basis, changed hands at Rs. 8/12 and Rs. 6/12 per md., and Rs. 8/8 and Rs. 6/12 were paid for 30/70 assortment. At the close of the month, small business was put through in European Middle at Rs. 9/- per md., and 'Supervised' Middle at Rs. 8/12 per md.

PUCCA BALES

Idle conditions prevailed for the major portion of the month. Shippers showed little interest, and prices were nominal, moving within narrow limits in sympathy with the futures.

In the opening week, mills bought Marwari Narayangunge Cuttings and Mixing Cuttings at Rs. 14/- and Rs. 13/8 per bale. In the last week, a limited quantity of Special Lightning was purchased by mills at Rs. 38/- per bale.

HESSIANS

The month opened with a fair amount of covering business being transacted, 9 porters being sold from Rs. 13/7 to Rs. 13/9 and 11 porters from Rs. 17/8 to Rs. 17/12 per 100 yds. for ready delivery. In the second week there was some speculative manipulation, with the consequence that prices appreciated slightly but on demand not materializing the prices fell away. The third week saw the presence of buyers, and with an element of speculation prices increased, with business of small volume being done at enhanced rates. On the 22nd, 9 porters was sold at Rs. 14/3 to Rs. 14/9 per 100 yds., and 11 porters for Rs. 18/2, February delivery. The month closed with prices easing and nominal business passing. Prices on particular dates were as under :—

Nine-porters

Dates	*Ready*	*March*	*Apr./June*	*July/Sept.*
6th	13/5/6	13/5/6	13/4	12/14
13th	13/9	13/9	13/6	13/-
22nd	14/7/6	14/6	14/-	13/6
27th	14/-	14/-	13/12	13/4

Eleven-porters

6th	17/7	17/5	16/12	16/1
13th	17/8	17/6	16/14	16/4
22nd	18/4	18/2	17/4	16/8
27th	17/13	17/12	16/14	16/4

HEAVY GOODS

The heavy goods market was fairly active, and good sales were registered, mostly with the Australian buyers.

In the first fortnight, business was done in Liverpools from Rs. 37/- to Rs. 37/4/- for February/March delivery and Rs. 37/- for April delivery. In the second half of the month, the main demand was from Australia for woolpacks and cornsacks. The former were sold at Rs. 1/9/- for February/March delivery, and the latter from Rs. 33/14/- for immediate delivery to Rs. 34/4 for March. B. Twills was sold at Rs. 32/2 for April delivery, and Liverpools at Rs. 37/6 for April/May delivery. Ready prices on mid-weekly dates were as follows :—

	5th	*12th*	*19th*	*26th*
B. Twills ...	32/2	32/-	32/2	32/-
Liverpools ...	37/-	37/-	37/10	37/12
Cornsacks ...	33/6	33/4	34/2	33/14

Monthly Variation of Exports

JUTE FROM INDIA

(Figures are in 1,000 tons)

MONTH	1940	1939	1938
RAW JUTE			
September	10·8	45·0	66·6
October	16·7	31·6	66·1
July-October	46·9	134·8	216·6
JUTE MANUFACTURES			
September	85·3	101·3	86·2
October	89·1	84·9	96·1
July-October	325·6	366·9	353·5
RAW JUTE AND JUTE MANUFACTURES			
September	96·1	146·3	152·8
October	105·8	116·5	162·2
July-October	372·5	501·7	570 1

THE shipment of raw jute in October, 1940 was the largest for the first four months of the season, but it was nearly 50 per cent less than the shipment in October, 1939. Exports of jute manufactures continued to rise in October, 1940 and actually exceeded the exports in the corresponding month of 1939. As a result, there was a further advance in the total exports of raw and manufactured jute in October.

Production and Stock of Jute Goods

INCREASE IN CONSUMPTION

MANUFACTURE of jute goods during February, 1941 by the mills reporting to the Indian Jute Mills Association showed an increase of 15·1 per cent as compared with the production of the previous month. The details of production during the month of February, are given below :—

Sacking Bags	(in 1,000s)	36,827	or	39,337	tons
Hessian Bags	(„)	26,513	„	6,666	„
Sacking Cloth	(in 1,000 yds.)	6,213	„	2,606	„
Hessian Cloth	(„)	114,751	„	31,158	„
Others				4,282	„
Total in February, 1941				84,049	„
Total in January, 1941				73,030	„

The **stocks of manufactured jute** with the mills reporting to the Indian Jute Mills Association at the end of February, 1941 were 8 p. c. less than the stocks at the end of the previous month. Increased production during the month and diminished stocks at the end show that more jute was consumed during February as compared with the previous month. The details of stocks at the end of February, 1941 are given below :—

Commodity	End of February				End of January			
	Million yds.		Thousand tons		Million yds.		Thousand tons	
	1941	1940	1941	1940	1941	1940	1941	1940
Sackings	142	140	63	61	145	120	63	51
Hessians of which	247	353	63	85	217	315	58	76
(*a*) Sandbags on Govt. account	44	...	...	...	69	...	...	...
(*b*) 8 oz. 40″ cloth	24	...	5·4	...	29	...	6·5	...

Bengal Jute Restriction Scheme

GOVT. ON ITS JUSTIFICATION

A resolution asking the Bengal Ministry to suspend the Jute Restriction Scheme undertaken by them this year was adopted at a public meeting held at Sraddhananda Park, Calcutta, on the afternoon of February 28, in observance of the "All-Bengal Jute Day".

The resolution adopted at the meeting pointed out that the restriction scheme undertaken by the Government this year would do no good to the cultivator, on the contrary, it would considerably harm his interests. Mere regulation of production, without fixing the minimum price of jute and without a provision for a regulated market of jute, on the basis of the probable demand could not ensure a better price for the cultivator. As the Government had not yet fixed the minimum price and as also there were serious defects in the record of jute lands prepared this year, what was the guarantee, the resolution asked, that the regulation of production would ensure a fair price next year? In the circumstances, the resolution said, the restriction scheme undertaken this year should be suspended.

New Orders for Indian Jute Industry

Since the issue of the last "Bulletin" the Indian Jute Mills Association received upto March 19, 1941 orders from the Government for the supply of 3·5 crore yards of sacking cloth, 96 lakh yards of hessian cloth and 3·7 crores of sand bags. In view of these orders the Committee of the Association have decided to work the mills throughout April without closing for a week as in March.

GOVERNMENT REPLY

In reply to the criticisms made about the Government policy of restricting the 1941 jute crop, the Government of Bengal issued the following statement :—

The Government desire (says a Press Note issued by the Director of Public Information, Bengal) to announce once more that regulation of the jute crop is the fundamental basis of their declared policy in relation to jute. Government will leave nothing undone to ensure effective restriction of the 1941 crop in accordance with the statutory notification that they have already issued. They will spare no effort and no expenditure for this purpose.

The 1940 crop was a record one and far in excess of the probable demand. Had Government not taken steps to see that the growers were protected from the full force of the law of supply and demand, the price of jute from the very beginning of the current season would have been disastrously low. Jute would in fact have been almost unsaleable. Thanks to Government's action, the price of jute this season has been kept at a level that is far higher than would have been the case if Government had taken no action. There can be no doubt of the truth of this statement.

Government would not have been able to take this action if they had not declared that regulation of the 1941 crop was the keystone of their policy and that they were determined to see that restriction was carried out.

The large crop of 1940 cannot be entirely used up this season. On account of the war and the serious shortage of shipping, many foreign markets are closed and others are not able to buy as much as before. The demand for jute has become less. If a large crop is grown in 1941, jute will become practically unsaleable. Only a small portion which is of the very best quality will be sold at low prices. The rest will not be sold at all and will remain in the hands of the growers. Further, if there should be any doubt about the restriction of next year's crop, the remainder of this year's crop which is still with the growers will not be sold at all or will fetch only very low prices. Restriction is, therefore, essential both to prevent prices of the present crop from collapsing as well as to maintain prices for the next crop. Government are determined that it shall be effective and that growers shall be protected from and warned against those people who would try to mislead them and hide the real truth from them.

The restriction that Government have ordered is for the protection and welfare of the growers and for no other purpose. It is essential to save them from ruin and disaster.

Government believe that nearly all growers understand this very well but there are a few who, either through ignorance or because they are being misguided by interested parties, are trying to mislead others. It cannot be too strongly emphasised that without the restriction that Government have ordered there is no hope whatever of saving the people from complete ruin and disaster.

The agitation against restriction is being carried on under the excuse that the record made under the Jute Regulation Act was defective. This agitation is not genuine because Government know that though the record is not perfect neither is it so imperfect as to justify the stopping of restriction.

RECTIFYING MISTAKES

Government have passed orders that the mistakes and omissions in the record shall be amended as far as is possible. These orders are as follows :—

All clerical errors and mistakes about which there is no dispute, such as wrong numbering of plots or insertion of the name of a wrong owner and so on, shall be corrected by the staff and the Union Jute Committees at once ;

To enable growers to make all necessary arrangements for rotation of crops, applications to include in the licence lands not recorded as jute lands will be received by the committees at any time, even after licence has been issued ;

Any person who claims that the objection which he filed when the record was being made was not properly inquired into or was rejected for some technical reason only, will be allowed to file an application to the Union Jute Committee to have that objection reheard and properly disposed of and lastly the few cases in which whole mauzas or sheets were for some reason not recorded are being investigated and, if necessary, a record will now be prepared.

These orders will, Government believe, go a very long way towards satisfying all genuine grievances. There may still be a few cases in which, for special reasons, hardship may be caused. Appropriate action to remedy such hardships or to reduce them to a minimum will be taken where necessary. Each case will be very carefully examined after the sowings are completed and steps taken as far as possible to remedy any hardship that has taken place. But because a few people may suffer some temporary hardship, Government cannot and will not relax in any way at all the orders which they have already issued that in 1941 only one-third of the area under jute in 1940 shall be sown. This action is vitally necessary in the interests of the growers themselves. Nothing else can save them.

Concluding the Press Note states that the Government appeal to the growers and to all right-minded men who have the welfare of the people at heart to assist them in making this year's restriction of the jute crop as effective as is humanly possible. Government issue this appeal because they know that disobedience of their orders will lead to disaster in the coming year and because they find that the propaganda that is being carried on by some mischievous people to induce cultivators not to obey the orders of Government is already having a depressing effect on prices.

They trust that this appeal will meet with a widespread response and that they may be spared the very unpleasant duty of applying coercive measures under the Jute Regulation Act.

Jute Restriction in Assam

LOAN OF Rs. 400,000 BY BENGAL GOVT.

According to a message of the *United Press*, dated March 4, 1941, a counter-proposal has been made to the Government of Bengal in the matter of jute restriction in a statement made in the Assam Legislature on that day by the Hon'ble Khan Bahadur Sayidur Rahman, Finance Minister.

The Finance Minister revealed that some time back the Bengal Government expressed their willingness to grant a loan of rupees four lakhs to the Assam Government, free of interest, repayable by ten annual instalments for the purpose of making a survey and a record of the jute-growing area in the provinces, provided the Government of Assam was prepared to obtain as soon as possible from the legislature or by regulation or by ordinance or otherwise such powers as are necessary for controlling, regulating and restricting the cultivation of jute crop in that province. The Assam Government, while agreeing to restrict, regulate and control the growing of jute over the area under actual cultivation in the same manner and to the same extent as in Bengal, was not in a position to concede the application of the same principles to new waste land to be reclaimed and brought under jute cultivation for the simple reason that the conditions in Assam are widely divergent from those of Bengal.

If the Government of Bengal finally agreed to this proposal, stated the Finance Minister, of imposition of no restrictions on waste lands in Assam they would avail of the loan and start a survey of the area under cultivation of jute, individual growers and take all possible steps for carrying out such a survey. As regards voluntary restriction, the Assam Government, he said, was already committed to take all possible steps requested by the Government of Bengal.

Jute Futures Market

PROF. TODD'S RECOMMENDATIONS

In our last issue of the *Bulletin* we gave an outline of Prof. Todd's recommendations regarding the Jute futures market, fuller details of which are given below to-day.

According to the Professor the existing pucca bale contract (L. J. A. First Marks) is too narrow, so that the market could be "cornered." It is useless for the producers or purchasers of kutcha bales. The system of tendering is almost non-existent. The four delivery months really boil down to only one contract for delivery in June and there is very little real delivery even then—only the transfer of a pucca delivery order.

There is too much speculation of the worst kind in the market and very little genuine hedging business. The Gudri and Kutni markets are of course impossible. The East India Jute Association has on paper most of the structure of an organised futures market, but many of its regulations have not been properly enforced. The Board of Control has degenerated into a routine committee for the fixing of the clearing rate. The futures market has, therefore, entirely failed to command the confidence of the trade as a whole.

The difficulty of reform, namely, by the introduction of a kutcha bale contract, has been largely due to the very unsatisfactory state of affairs with regard to the standards for loose jute, which have always proved unstable in spite of repeated attempts to introduce new standards that would be permanent. The question of excessive moisture in jute and the variability of the weights used in the trade have caused great inconvenience and loss.

SUGGESTED REMEDIES

Professor Todd suggests the following remedies:—

The establishment of a new body to be called the Indian Jute Federation representing every interest in the trade, including the growers through the Government, and certain wider interests, *e.g.*, science, banking and shipping. The Federation will consist of a Council of 29 members to be elected as follows: The Government of Bengal—2; Government of Bihar—1; Government of Assam—1; Government of India (Indian Central Jute Committee)—2; Indian Jute Mills Association—4; Bengal Jute Dealers Association—2; European Mofussil Jute Balers Association—2; Calcutta Baled Jute Association—2; Calcutta Baled Jute Shippers Association—1; Calcutta Jute Dealers Association—1; Jute Balers Association—1; Cossipore Jute Sellers Association—1; East India Jute Association—1; The Gunny Trade (meantime)—1; Bengal Chamber of Commerce—1; Bengal National Chamber of Commerce—1; Indian Chamber of Commerce—1; Muslim Chamber of Commerce—1; Marwari Association—1; and Banking and Shipping (one each)—2. Total 29.

The Federation would be constituted by legislation which would declare all futures trading in jute or hessians illegal, except under the aegis of the Federation. It would also have the exclusive duty of establishing and maintaining standards of grades for jute.

The jute futures market would be operated by an "ad hoc" body to be called the Bengal Jute Exchange, the membership of which would consist of all those who wish to operate on the Exchange. The Directors of the Exchange should be 12 in number, 8 nominated by the Federation and 4 elected by the members.

The Directors may appoint committees from the members, *e.g.*—(a) an Exchange Committee to control the Exchange premises and admission thereto. Quotations and the publication thereof, etc., etc., (b) a Clearing House Committee, (c) a Committee on Arbitration, Appeals and Claims, (d) a Committee on Standards, including the care of the Standard Boxes, and (e) a Committee on statistics in co-operation with the Indian Central Jute Committee.

Premises will be required for (a) the Exchange itself and its immediate offices including Clearing House, (b) arbitrations, in co-operation with the Bengal Chamber of Commerce, and (c) possibly the Testing House for excessive moisture in co-operation with the Indian Jute Mills Association. The Federation should explore the possibility of leasing premises in the first place, *e.g.*, the Royal Exchange.

Membership of the Exchange should be open to every individual or firm actually engaged in the Jute Trade and having an office in Calcutta but to ensure due fulfilment of the brokers' obligations as principals to their fellow members they should deposit Rs. 50,000 in cash or Government securities with the Federation. The case of existing members of the East India Jute Association would receive consideration, e.g., by granting them time, say three to five years, to complete their deposit subject to a limit on their operations during that period. Future members would be admitted by ballot.

CHECKING UNDUE SPECULATION

Each individual or member of a firm desiring to trade as a broker would pay an entry money of Rs. 2,000 and an annual subscription of an amount to be determined by the Federation. The present subscription is Rs. 100 a year. The Federation and the Exchange should be self-supporting, its revenues including also charges on Clearing House turnover, fees on arbitrations, and if necessary a registration fee on contracts. If, however, the Bengal Government should impose a stamp duty on futures contracts a corresponding subsidy to the Federation would be reasonable. It may be necessary for the Government to assist the Federation if capital expenditure on buildings is required.

To check undue speculation a limit might be imposed on the "open interest" of each broker or of each client. Every client should make and maintain a deposit of say 10 per cent on his obligations to his broker. Settlement of margins should be weekly.

Futures trading must be absolutely confined to the business hours of the Exchange and carried on only in the "ring" on the floor of the Exchange, every transaction being recorded on the Prices Boards.

All contracts whether between members themselves or between members and non-members must be in writing and registered with the authorities of the Exchange. If necessary, the contracts could be handled by a reputable accountant and only the statistical results communicated to the Directors under proper safeguards.

A limit should be imposed on the daily price fluctuations based on a percentage of value, say 8 annas on a basis price of 8 rupees per maund. Brokerage should be fixed and compulsory on a percentage basis, say ½ per cent. The present "pucca" bale contract should be replaced by a "kutcha" bale contract with a unit of 1,000 maunds and a price unit of 1 maund (1 maund equal to 82-2/7 lbs.)

There should be 12 monthly contracts open all the time, the current month and 11 months ahead. Each monthly contract must be closed out by the end of the delivery month by tender, or by being bought in or sold out at market value. Tender to be made on the first day of the delivery month or on fixed days during each week. The price of the near month contract would normally be below the spot price for ready jute.

The provision of adequate storage accommodation in licensed warehouses will ultimately be necessary.

A new set of standards for loose jute, to be known as the Government grades, must be established by the Federation and must become the sole standards permissible in any contract for the sale of jute. This, however, does not prevent sale by sample or by private marks, so long as no grades or standards are used or implied in the contract. A clause on the lines of the American Cotton Standards Act should be included in the proposed legislation.

Jute has been divided into five grades to be known as A, B, C, D and E,—C being the basis grade, on the principle of a simple description of the chief "appearance factors" in the value of loose jute combined with a percentage of cuttings (varying for "white and tossa") and a simplified guarantee of warp content.

Of the five grades the lowest, E, would not be tenderable against the futures contract nor any jute containing excessive moisture. The limit suggested is 22 per cent on the dry weight. From 17 to 20 per cent an allowance would be made to the buyer with a corresponding allowance to the seller below 17 per cent. From 20 to 22 per cent allowance or rejection should be in the option of the buyer.

The decision to drop the existing "pucca" bale contract avoids the difficulty of applying the standards to pucca bales which contain no cuttings.

Pucca bales will continue to be sold in the spot market and for export under their private marks without the use of grades. If "kutcha" bales are sold in the spot market under private marks no grades (other than the Government grades) can be used in conjunction therewith. If such a bale should come to be tendered against a futures contract it would of course be valued by the arbitrators solely on the Government grades and without reference to the private mark.

An important suggestion was made that jute should be cut before being made up into "kutcha" bales, either by the "kutcha" balers or by the growers themselves, and the cuttings sold separately. It was agreed that this would greatly simplify the whole question of grading and give a much more satisfactory result, but it was felt that most of the "kutcha" balers had not at present the facilities for cutting, nor had the ryots the necessary skill. It was strongly pressed, however, that the suggestion should be kept in view as a possibility for the future.

HESSIAN MARKET REFORMS

Professor Todd makes the following observations regarding the hessian futures market:

The present market is at least as unsatisfactory as the existing jute futures market. On paper the constitution of the Exchange provides the necessary structure for an organized market but again it is doubtful how far the regulations are enforced. The sole existing contract is definitely too narrow.

But the real problem is the existence of the bazaar market with its dealings in the "counter" of 10′ × 8 oz. hessians, largely on delivery orders. This has created a whole set of conditions in the industry which make reform very difficult. If there were no bazaar there would be no need of a hessian futures market. Short of that sweeping reform the only recommendation that can usefully be made at the present stage is that further inquiry should be made into the whole position, and particularly into the possibility of so revising the contracts as to provide a suitable basis contract. This would mean two contracts, one for hessian and the other for heavies, each with the necessary options. Until that at least can be put into execution there should be no question of reopening the hessian market.

If there is to be a separate hessian futures market it must be brought under the same control as the jute futures market (i. e., the Indian Jute Federation) and carried on in the same building, under the same conditions as to methods of business, hours of business, conditions of membership, terms and period of contracts, terms of tender and arbitration restriction on fluctuation of prices and other safeguards against undesirable speculation. Of these the restriction on daily fluctuations should be made a condition precedent of any temporary reopening.

But the greatest objection to a hessian futures market under present conditions is that the supply of the goods is controlled by a virtual monopoly which has the power at any time to alter the conditions of supply by changing the terms of the agreement as to working hours. This and the existence of a minimum price agreement would make the working of a futures market very uncertain.

Concluding Professor Todd says that if the Government is inclined to give favourable consideration to any major part of these recommendations the following preliminary steps could be taken at an early date to prepare the way for the ultimate promulgation of the scheme :—

Consideration of the points to be covered by the necessary legislation. These appear at present to be ;

The constitution of the proposed Indian Jute Federation, if it is to be directly constituted by legislation, or alternatively its constitution under the Companies Acts as a non-profit making company limited by guarantee or otherwise. This also involves the status and constitution of the proposed Bengal Jute Exchange, whether by legislation or as a company.

The term of the proposed monopoly of futures trading to be conferred on the Federation and the Exchange.

The powers of the Federation for the establishment and maintenance of standards for loose and the terms of the clause confining trading in jute to the use of the Government grades.

The enforcement of the standard boxes for the new grades should be set on foot at once and preliminary samples made available for public inspection.

The question of possible premises for the Exchange and its various activities should be explored.

The possibilities of financing the scheme in various ways should be examined.

If and when it is decided to proceed with the necessary legislation a provisional Council might be set up, on the lines indicated in the report, to work out more authoritatively the various details which must be settled before the scheme can be put into operation.

In the meantime the Board of Control might be asked to consider the introduction forthwith of certain of the reforms proposed in the report, *e. g.*, the strict enforcement on all new applicants for membership of the Rs. 50,000 deposit, the enforcement of a uniform and compulsory rate of brokerage, the suppression of all business outside the official trading hours of the Exchange and any other disregard of the bye-laws. The limitation of daily price fluctuations could also be introduced at once.

MARWARI CHAMBER'S REPRESENTATION

The Marwari Chamber of Commerce, it is understood, has addressed a communication to Prof. Todd asking for its representation in the proposed Council of Jute Federation.

Annual Meeting of I. J. M. A.

JUTE POSITION CONSIDERED SOUND

VARIOUS problems relating to the jute industry were discussed by Mr. W. A. M. Walker in his presidential address at the annual general meeting of the Indian Jute Mills Association held on February 21, 1941.

"Despite adverse trade conditions," said Mr. Walker, "the industry is in a sound position and I trust that the future will see even closer co-operation among ourselves."

As regards the Association's war efforts, Mr. Walker dwelt on the contributions made by the mills towards the successful prosecution of the war, and in particular referred to the fact that mills' spare machinery had been mobilized at an engineering works for shell production and the remaining machinery in the mills' own workshops would soon be placed on a 24-hour basis in order to manufacture vital component parts in shell and armament production.

POSITION OF INDUSTRY

Discusssing about the position of the jute industry he said :—

"When your Chairman addressed you at the last annual general meeting of this Association the state of affairs in the industry might have been described as flourishing. It is true that the delivery of the large order for sandbags had just been slowed down in order to conserve shipping space but we were still working 60 hours a week and finding ready markets for our goods.

"The year under review records a very different story and with blow after blow falling in Europe, one market after another was lost to the industry. Each in itself was not perhaps of so great significance to our exports but the cumulative effect meant the disappearance of a very large volume of trade. The slowing down of deliveries of the large sandbag order had gradually resulted in an increase in stocks of manufactured goods and it was found necessary to reduce the working hours per week to 54 from April 8. In taking this decision the Committee had in mind the desirability of reducing hessian stocks to about 15 crores of yards which they considered a reasonable figure in all the circumstances then prevailing.

FURTHER REDUCTION

"As phase after phase of the War in Europe developed, it became obvious that it was unlikely we should receive any further orders from the U. K. for sandbags and other war materials on such a scale as had previously been the case. This together with lack of shipping facilities, and the loss of one market after another, necessitated a further review of the position after the June stock figures became available and it was decided early in July that after the requisite months' notice had been given, working hours should be further reduced to 45 per week, and this took effect from August 19, 1940.

"Unfortunately the shipping position continued to deteriorate rapidly and before the reduction in working hours came into effect, the stocks of contracted goods awaiting shipment to the U. K. alone had risen to such an extent that they represented over 10 per cent of the total hessian and sacking Calcutta stocks of manufactured goods. It therefore became necessary in August for the Committee again to examine the question of working hours. Two courses were open for consideration, a reduction in the working hours per week or, as a temporary measure, the closing down for one week per month. Your Committee gave this matter very serious consideration and came to the conclusion that the closing down of one week per month afforded the best method of meeting the situation and would allow of rapid adjustment without dislocation of labour.

"I venture to think this decision has been justified. We have closed down one week per month from September until this month when we are working the full month, again reverting to the closed week in March. It is to be noted that should there be any sudden demand on the industry, the decision to close down could be immediately rescinded and working hours could be increased without any delay.

SHIPPING CONDITIONS

"Present conditions do not warrant any hopes of an immediate improvement in the shipping position but I should like to assure you that I have taken every opportunity to bring to the notice of those concerned the desirability of reducing this accumulation of unshipped goods at the earlest available moment. I am confident that when the time comes our claims will be favourably considered.

JUTE REGULATION BILL

"Early last year the Government of Bengal introduced and passed the Jute Regulation Bill which gave them powers, after consultation with an Advisory Board, to regulate the sowings of jute in this province. The question of whether or not these powers should be exercised in the year that has passed was a matter of very considerable controversy but eventually Government decided, for various reasons, that the area sown last year should be subjected to no restriction. At the time this decision was made, it appeared to be the most reasonable course to adopt. None could have foreseen the invasion of the Low Countries or the fall of France, resulting as they did in the closing of markets and the almost complete stoppage of war orders from the Home Government.

"Even before these momentous events occurred, Government began to view with alarm the probable size of the forthcoming crop and its effect on prices. Up to the time when the Darjeeling Conference was called early in May, prices were ruling high, too high in the opinion of many of us, Jute Futures being quoted at the end of April at Rs. 66-8 and Hessians at Rs. 13-14.

"In their concern for the welfare of the cultivators the Government of Bengal decided to call a Conference early in May to ascertain the views of those connected with the industry on what steps might be taken to secure a price for the cultivators justified by world conditions then prevailing. What happened at that Conference is well known to you, and I will not repeat it except to say that whilst all agreed that the ryot should receive a fair price for his jute, all genuine trading interests deprecated further Government intervention.

"Within a few days, however, Government decided to fix minimum and maximum prices in the futures market and an Ordinance was duly promulgated fixing these at Rs. 60 and Rs. 90 for jute and Rs. 13 and Rs. 21 for hessians. Further support to this evidence of Government's determination to exercise a control over purely trading factors in the great industry was given by their action in purchasing jute on their own account in an endeavour to support a falling market and maintain the prices fixed by the Ordinance. Whatever the opinions held on the wisdom of these actions, your Committee had perforce to take most careful note of them and consider in what ways a further development of this policy was likely to affect mill interests.

CHANGED CONDITIONS

"Whilst their review of the position so occasioned was under study an adverse and unpredictable turn in the international situation culminating in the fall of France, entirely upset all previous calculations not only in Government's policy but in the bazaar itself. Your Committee promptly seized this opportunity of demonstrating to Government how in trading factors, much better results would accrue to all sections of the trade and industry —with consequent beneficial effects on the Province generally— were action left within the hands of those whose business it is to evolve ways and means of meeting whatever changes world conditions bring about in trade.

"Approaches were accordingly made to Government and certain proposals made which paid the highest regard to the vital interests of all sections of the trade and industry. The result of these approaches was the arrangement made and confirmed by the Government of Bengal on June 27, whereby mills agreed to purchase jute at prices not below certain fixed minima and to sell their manufactures on a like basis. On their part Government agreed not to intervene in matters of price fixation or purchases of jute. They also agreed to give the question of the futures markets their careful consideration.

"The Committee decided that it would not be advisable in this instance to make such an arrangement part of the Rules and therefore binding on all members. It was a new venture which had met with some opposition and it was difficult then to forecast its effects. It was therefore left as a strong recommendation to members.

"Although it was expected of them (and many responded) to purchase jute at the prices fixed, they were unable for a considerable period to sell their manufacturers at the prices which had been fixed as minima. With the deterioration of the international situation and the lack of shipping facilities, the weight of the crop began to assert itself and as Mills were unable to justify very heavy purchases, prices up-country fell well below those at which they were buying under the arrangement. It was obvious that this economically unsound state of affairs created an impossible situation and defeated the whole object of the agreement which was that of securing a fair price to the ryot. Money was flowing into the hands of the middlemen and the mills were paying prices for above those ruling up-country.

REVISION OF PRICES

" Your Committee viewed the position with much concern as also did the provincial Government and in November it was decided to approach Government for a revision of prices and for the introduction of a new mark in view of the considerable amount of very low quality jute coming in up-country. That they had every justification for this course was apparent from the views expressed to us by the Special Jute Officer and by the public utterances of the Finance Minister.

" Prolonged discussions took place between ourselves and the provincial Government and although the Government were reluctantly prepared to agree to a revision of prices they viewed with apprehension the introduction of a new low mark and they were insistent upon a guarantee being given by mills that their purchases would be not less than a definite quantity by a given date.

"Shortly before these discussions took place and as the result of the action taken in reducing working hours, prices of manufactured goods had appreciated and mills had been enabled to dispose of considerable quantities of goods at the minimum rates and later at even higher prices. Much was made of this during the discussions which took place with the provincial Government, although it was pointed out that the rise in prices was more than offset by the higher working costs and that the revision of jute prices asked for did, in fact, place the relative prices on the same footing as before. It is, however, very difficult to convince those who are unwilling to see and the negotiations came to a deadlock. The outcome was the Delhi Conference called by the Government of India on December 4.

"I have already addressed you very fully on the outcome of this Conference and the arrangements made there are now being carried out. With the exception of certain small units whose returns have yet to be received, member mills had purchased up to the 15th of this month, 21·68 lacs of bales against the quantity of 25 lacs, the quota fixed at Delhi. I do not know whether Government will decide to make the purchases up to the deficit amount as they are entitled to under the agreement but I do ask you to do all in your power to implement the quota fixed up to April 15. Most of us have implemented our share and I sincerely trust that those who have not done so will make every effort in that direction before the next quota date. We must all surely be anxious to avoid the disturbance of purchasing on Government account.

"I feel sure you will agree with me that the steps we have taken in regard to these two agreements with Government and particularly the step we took in making the recent arrangement regarding prices binding on members under the rules, have proved the benefits which a strong Association can confer on its members. We have gone through difficult times during the period of these arrangements but we are in a strong position today and I venture to think that the various actions we have taken in the interests of the ryot and the industry have had no untoward repercussions elsewhere.

"The heavy stocks of 40″ × 8 oz. hessian in the possession of nervous bazaar holders had a depressing effect on the market last July and the Committee proposed to you a scheme for the purchase of excess stocks by the Association which thereby would create more confidence and stability in the market. The scheme had a considerable degree of support but it was not necessary to implement it; for members all agreed, on the receipt in September of a large order for sandbags, not to manufacture or sell 40″ × 8 oz. hessian during the currency of that order. That this decision was a sound one is reflected in the 8 oz. stock position as it exists today and all restrictions have now been removed on the manufacture of this cloth.

"It is interesting to note that the proposal to build up a fund for the purchase of manufactured goods and the prohibition on manufacture of any specified goods came within the scope of the Association rules. Counsel's opinion was sought at the time these proposals were under consideration and the opinion given established this fact. I think this is a very important point and one which goes still further to prove the value of the framework of our Association and the powers we possess to protect our interests.

"At the end of January last year our stocks were a total of 43,44,98,903 yds. made up of 31,47,86,219 yds. of hessian and 11,97,12,684 yds of sacking.

"We have manufactured during the year 3,40,15,96,333 yds. of hessian and sacking and our stocks at the end of January this year were a total of 36,20,86,052 yds. made up of 21,69,36,628 yds. hessian and 14,51,49,424 yds. sacking.

"From the hessian stock figures as given must be deducted the sandbags held on Government account, and therefore the position is reached of our having nearly 15½ crores of hessian in stock and we have now attained the end we set out to achieve. The heavy goods position, however, is not so healthy as it might be but it is far better than the continued loss of markets might have led us to expect. I have no doubt your new Committee will watch this position very closely.

THIS YEAR'S CROP

"As regards the raw material I think it is generally considered that the crop this year will amount to round about 120 lacs of bales. If we implement to the full our undertaking with Government, mills will have absorbed some 62½ lacs of bales by April 15.

"It is not possible to forecast export figures but it may be assumed that by the end of June some 90 lacs of bales will have been absorbed by mills and export ; and this apart from stocks in the hands of middlemen, I do not think it beyond the bounds of reason to expect that the ryot will hold quite a considerable quantity of crop over till next season ; therefore, if there are no untoward developments before then, it seems to me the position does not warrant undue pessimism. I firmly believe that it is the intention of Government to ensure that restriction of the crop to ⅓ of that of this season will be rigidly enforced and I can see no reason why they should not be able to give reasonable effect to this—in fact it is a part of our understanding with them.

"I will not say much regarding the futures markets. These were rendered inoperative for some time owing to prices falling below those fixed by Ordinance but after the expiry of the Ordinance the jute futures market re-opened. Its operations have not been of much consequence although I should point out that the recent heavy fall in prices can hardly be called a barometer of conditions up-country where in most districts good prices are still being paid. The whole question of the reconstruction of the jute futures market is now under review. Professor Todd's interim report has been issued and there is much in his proposals which in my opinion would make for a sound futures market.

RESEARCH WORK

After commenting briefly on the work of the Research Department of the Association, Mr. Walker said : "Your Committee have just concluded their reference to members regarding the continuance of the Department and as a result of these references the General Committee have decided that the Research Department shall continue on a permanent footing. I think we must be prepared to strike out boldly too and it may be that considerable financial calls will require to be made in order to place Research work in the important position it should occupy in our industry. Money thus employed will be well spent—we have proved over and over again the value of ample research facilities, and I look forward to the expansion of this branch of the Association's activities.

Two More Trade Commissioners

The Standing Finance Committee at its meeting on March 8, 1941, agreed to the proposal of appointing Indian Trade Commissioners in Canada (at Toronto) and South America (at Buenos Ayres) with the object of developing new markets for Indian goods to replace markets cut off by the war in Europe. It is believed that there is considerable scope for expanding India's trade with Canada and South America and that prospects of this would be improved by the appointment of Trade Commissioners.

The jurisdiction of the Trade Commissioner at Toronto will be the entire Dominion of Canada, and that of the Trade Commissioner at Buenos Ayres the whole of South America as far north as, and including, Guatemala. They will be appointed probably for the duration of the war and will be under the general control of the Trade Commissioner in New York.

"Before I leave this subject I should like to express our thanks to the Research Committee and the Calcutta and London staffs of the Department for their valuable work during the past year."

CENTRAL JUTE COMMITTEE

Reviewing the activities of the Central Jute Committee, he said: "The work on the Jute Census Scheme of the Central Jute Committee has now reached the final stage. A full scale Provincial survey has been planned on 1941 crop, and, if successful, will provide all the information necessary for the forecasting of the area under jute in future. Yield estimation experiments will also be carried out in the course of the next three years in collaboration with the Government of Bengal.

THE FUTURE

"And now what of the future? When your Chairman addressed you last year conditions were very different to what they are today. Even then, however, whilst speaking generally in an optimistic strain, he said that the year 1940 might prove a year of hardship and suffering.

"This, alas, has been only too true, country after country has been overrun in Europe and England has been subjected to ruthless air attacks. Italy entered the War in June and France capitulated in the same month. The democracies have had to face some hard knocks and there may be yet great struggles before us. We are, however, more than ever prepared to meet whatever lies before us in the confidence that victory must be ours.

"So far as our Industry is concerned, it is difficult to make any forecast of the future but one thing we may say with reasonable certainty and that is, we have gained from our past experiences and are more than ever before in a position to meet whatever may lie ahead of us. We have proved the strength of our constitution and the value of co-operative effort. Despite adverse trade conditions, the Industry is in a sound position and I trust that the future will see even closer co-operation amongst ourselves.

"Our immediate future is dependent to a great extent upon shipping facilities. I belive there is a good demand for our manufactures in those markets which are still open to us and that this demand will continue. Provided tonnage is available, I do not consider our position will materially alter from that of the past six months and with any improvement in the situation this industry will share. In addition to this I fully anticipate that we shall continue to receive valuable orders for war materials.

"On a previous occasion I ventured to say that, however desirable it might be, it was impossible to separate business from politics in this province and that applies particularly to our own Industry. The Finance Minister in his Budget speech last Saturday said :—

"For the first time in the history of this province Government have secured the co-operation of the India Jute Mills Association in an endeavour to obtain fair prices to the growers and to stabilise conditions throughout the trade. I am glad to have had this co-operation and I hope that in future years it will be forthcoming in increasing measure.

"He is not quite correct in saying 'For the first time' as we have frequently in the past evidenced our desire to co-operate with provincial Government in matters affecting the welfare of our industry. Be that as it may, our relations are at present on a friendly basis and we shall always be prepared to co-operate in all reasonable matters for the advancement of the welfare of the province and of our industry."

Muslim Chamber of Commerce

PRESIDENT'S SURVEY OF JUTE POSITION

REVIEWING the jute position Mr. M. A. Ispahani, in his presidential address at the annual general meeting of the Muslim Chamber of Commerce, on February 28, referred to the appointment of a Special Sub-Committee by the Indian Central Jute Committee in September last to consider a scheme of Government purchases of the surplus crop of jute which they had discussed with the Hon'ble the Commerce Member who was then in Calcutta. It had then been suggested that the Government of India should come to the rescue of the Provincial Government by financing the surplus crop with a view eventually to carrying it over and liquidating it within a reasonable period of time after the restriction of the crop had been enforced.

In the meantime on the arrival of the new crop the prices commenced declining sharply, continued Mr. Ispahani, which resulted in the Delhi Agreement between the Bengal Government and the Indian Jute Mills Association, which provided for periodical purchases reaching a total figure of 37·5 lakhs of bales, by April 15, 1941. But Mr. Ispahani regretted that the provisions of the Agreement had not been strictly complied with.

Another difficulty, proceeded Mr. Ispahani, which had accentuated the situation was the absence of freight. A large quantity of jute sold for export was lying in the market uncleared for lack of freight.

Trade Conditions in Argentine

DISTURBED CONDITION IN JUTE TRADE

THE following is the full text of Mr. W. J. Jackman's Monthly Report, No. 37, on conditions affecting the Jute trade in the Argentine Republic :—

The New Year commences with no improvement in prospect for business conditions in the Republic.

The National Budget recently introduced in Congress estimates expenditures for 1941 of $1,082 million pesos, with receipts of only $822 millions, involving a deficit of $260 million pesos. Proposed modifications may reduce this to $150 millions. Higher income and inheritance taxes are contemplated, but nothing specific has yet been proposed.

Exports during November had a value of $78,582,000 pesos, a figure $12,828,000 lower than the import values. The import balance for the first 11 months of the year is thus brought up to $81,748,000 pesos, as against an export balance last year of $222,209,000.

One of the changes which war-conditions have brought about in international trade as affecting the Argentine is the supplanting of Great Britain by the United States as the principal supplier of our importations, and a major financial problem in recent months had been the securing of dollar exchange to make the necessary payments. In part, payments have been reluctantly met by shipping gold to New York ; reluctantly because the traditional policy of the Republic has always been to conserve its gold reserves. Now additional relief of a temporary nature has been secured by two agreements just completed under which credits of $110 million U.S. dollars are granted to the Argentine by the United States Government.

The great objective of the Argentine Government at the present time is to secure the stability of the principal source of wealth of the country, Agriculture. Hence basic prices have been established for the farmers' principal products, and it is anticipated that about 5½ million tons of wheat will have to be purchased, besides more or less 1½ million tons of linseed and ½ million tons of barley. It has already purchased and still holds 6 million tons of the old crop of maize, and will no doubt have to buy most of the new crop, the prospects of which are at present very promising.

Crop News

The first official estimate of the volume of the new crops of the principal grains and seeds, excluding maize, was recently made public, showing a total for the six crops dealt with of 12,252,000 tons, as against last year's out-turn for the same crops of 6,360,600 tons. The principal increases are 146·1% in wheat and 97.2% in linseed. The rest all show increases also but of a smaller nature. The official calculation was probably unduly optimistic, and violent storms have damaged the crops since it was made ; so that a second survey which is now being made will undoubtedly produce lower figures. Nevertheless, inconveniently bountiful crops will still remain, in view of the restricted markets.

Whilst heavy rains in December damaged the wheat, linseed and other crops, it proved highly beneficial to the new **Maize** crop, on which present reports are very favourable, although it has a long way to go before maturity. As already mentioned, most of the old crop is still on hand, awaiting buyers.

Wool stocks are officially announced as having totalled 54,272 tons on December 1st, which compares with 36,855 tons a month earlier, and indicates that the new clip is moving freely. The Argentine scouring mills are working on a three-shift basis and are said to be busier than at any previous time in their history.

The Jute Trade

The disturbed conditions in the grain bag trade referred to in my last report still continue, with a serious shortage of bags complained of in important grain growing districts with the harvest in full swing.

Possibly part of the trouble is due to the change in the system of handling bags which followed the assumption by the Government of official control of the trade following the outbreak of war. In former years it had been the practice for the grain grower to assure himself of an adequate supply of bags for his crop well in advance by contracting for them with the makers or with the local dealers, the latter also usually the local grain dealers. A "Futures Market" was conducted in the Bolsa de Comercio, through which users or dealers could buy in advance at the price of the day, or could dispose of surpluses in the event of disappointing crops of grain or seeds. But with the control of the trade being assumed by the Government and reasonable prices assured, and adequate supplies possibly taken for granted by the bag users, the necessity for looking ahead perhaps no longer seemed essential. Orders did not come in to the factories in the old way in advance, and when they did come in higher prices were demanded. This led to complaints from the bag users ; the Control Board stepped in and ordered a reduction to a level which whether profitable or not, certainly did not leave the margin which the manufacturers felt themselves entitled to.

A busy month has been spent by the Commission in control in straightening things out. Stocks of canvas and bags were attached in various warehouses and factories, orders on the books were verified, and any surplus was claimed in the name of the Government. Overtime work was ordered where necessary in the factories in order to intensify the output, with the correspondingly increased labour cost. An extra supply of seven million bags is estimated to have been secured in this way. This with the unused surplus in other parts of the country, it is calculated, will place ten million bags at the disposal of the authorities.

The S. S. "K. G. Meldahl" recently arrived from Calcutta with a cargo of jute, canvas and bags. It is announced this morning that the Government has decreed the expropriation of all the bags which may be manufactured from the material in this cargo, estimated as sufficient for 2½ million bags. A firm to whom part of the canvas was consigned has already placed 450,000 bags at the disposal of the authorities. The Decree orders that all the bags made from this canvas shall be distributed directly by the Ministry of Agriculture to those in need of them ; and explains that the step has been taken in order to prevent speculation in canvas or bags needed for the crop.

Amongst the other measures taken in the first flush of excitement was the despatch of a Commission to Brazil, charged with the duty of purchasing cotton flour bags for use in the Argentine as containers for flour, so as to release the jute bags ordinarily used here for that purpose to help to make up the shortage in the harvest fields. No information has yet been published as to the results of the mission.

The decrease in the complaints reported from country points would seem to indicate that the bag shortage is in process of being overcome.

Jute Prices

In the case of bags the current prices are reported as the officially fixed prices quoted in my last report. This, of course, is compulsory.

Practically all other prices of jute goods are quoted as "nominal", and there is naturally little business passing under current conditions.

Importations

In December, one small cargo arrived from **India** by the Norwegian steamer "K. G. Meldahl", consisting of 2,340 bales of canvas, 151 bales of jute, and 100 bales of bags.

From the United Kingdom there arrived 10 bales of Canvas and from Brazil 179 bales of Yarn and 126 bales of Twine.

U. S. A. Statistics

IMPORTS OF JUTE AND JUTE GOODS

IMPORTS of jute and jute goods into the U. S. A. as published in the *Daily Mill Stock Reporter* are given below, the figures being in tons :—

Commodity	October 1940	November 1940	January—November	
			1939	1940
Jute, Raw ...	3,508	407	33,534	42,125
Jute Butts ...	...	382	376	2,376
Burlap (Hessians)	21,683	14,787	184,527	206,563
Jute Bags and Sacks	3,387	2,226	10,647	16,194

HESSIAN STOCK AND CONSUMPTION

Hessian stock and consumption figures of the U. S. A. excluding the Pacific Coast business, as reported by the Indian Jute Mills Association are given below, the figures being in millions of yards :—

	December		January		February	
	1939	1940	1940	1941	1940	1941
Stock	264	259	231	269	213	215
Consumption	53	53	55	57	52	60

NEW YORK PRICES

Average prices of jute and a few substitutes are given below. Some of these figures have been supplied by the U. S. Department of Labour and the rest have been calculated from the daily quotations published in the *Daily Mill Stock Reporter* of New York.

Commodity	Unit	Oct. 1940	Nov. 1910	Week ending in Dec. 7	Dec. 14	Dec. 21	Dec. 28
Jute raw, Medium grade ...	Cents per lb.	4·5	*4·6	4·5	4·6	4·8	4·8
Hemp, Manila ...	,,	6·5	*8·9	8·1	7·8	7·4	7·4
Sisal, Mexican ...	,,	3·2	*3·0	3·0	3·0	3·0	3·0
Binder Twine ...	,,	8·3	*8·3	8·3	8·3	8·3	8·3
Rope, pure Manila (¾ inch or larger) ...	,,	15·5	*15·5	15·5	15·5	15·5	15·5
Kraft paper No. 1 (unbleached) ...	,,	3·4	3·4	3·4	3·4	3·4	3·4
Burlap							
8 oz. × 40" ...	Cents per yd.	5·6	*5·9	6·1	6·1	6·2	6·2
10½ oz. × 40" ...	,,	7·3	*7·7	7·9	8·1	8·1	8·1
Osnaburg							
36", 2·85 ...	,,	6·8	7·2	7·4	7·4	7·4	7·4
40", 2·05 ...	,,	9·3	9·6	9·9	9·9	9·9	9·9
Fertiliser Bags							
Jute, 100 lb. ...	Cents per bag	8·4	8·9	9·1	9·1	9·3	9·3
,, 200 lb. ...	,,	12·4	13·2	13·6	13·8	14·1	14·1
Cotton, 100 lb. ...	,,	8·7	9·2	9·5	9·5	9·5	9·5
,, 200 lb. ...	,,	16·1	16·6	17·2	17·2	17·2	17·2

*Average of 3 weeks.

Cotton Bagging for Cotton

PROGRAMME FOR 1941 UNDER WAY

ACCORDING to the *Daily Mill Stock Reporter* of January 29, 1941, the cotton-bagging-for-cotton-bales programme for 1941, calling for the manufacture and sale of up to 2,000,000 cotton "patterns," or bale covers, to encourage the use of domestic cotton for this purpose and to provide an additional outlet for a part of the surplus, has been announced by the Department of Agriculture.

The 1941 programme will operate similarly to the cotton bagging programmes conducted by the S. M. A. in 1938-39 and in 1939-40 under which a total of about 2,000,000 patterns were made and sold by participating manufacturers for use as cotton bale cevers.

Under the 1941 propramme payments of 15c. per pattern will be made to the manufacturers holding approved applications who make cotton patterns according to approved specifications and sell them to cotton producers, cotton ginners, cotton seed oil mills and other distributors of bagging for cotton. Patterns must be either manufactured or sold before June 30, 1941.

As these projects develop on commercially self-supporting bases, they are expected to contribute to increased domestic use of cotton. Current crops of approximately 11,000,000 to 12,000,000 bales would require the use of about 100,000 to 150,000 bales from which to make the bagging needed.

Cotton and Jute Bag Industry of Canada

INCREASED ACTIVITY DURING 1939

OPERATIONS in the cotton and jute-bag industry increased considerably in 1939, according to the Dominion Bureau of Statistics. The industry in that year consisted of 27 plants with an invested capital of $6,343,000, and gross value of production was $10,321,000, of which $8,058,000 represented cost of materials (exclusive of fuel and electricity at $12,000) and $2,220,000, the value added by manufacture. The industry in 1939 used 95,930,000 yards (valued at $4,167,000) of jute fabrics, 39,034,000 yards (at $3,002,000) of cotton fabrics, and other fabrics valued at $267,000; second-hand bags to the number of 4,909,000 (at $310,000); 480,000 pounds of sewing twine ($138,000); and 70,000 pounds of thread (at $2,000). Production included 71,974,000 jute bags, valued at $5,601,000; 52,366,000 cotton bags, $1,222,000; repaired bags, $371,000, and 16,814,000 individual tea bags of all kinds, valued at $43,000.

Proposed Sack Factory for Cuba

According to a correspondent of the Jute Review the Cuban Department of Commerce have received an application from an organisation anxious to develop a factory for the manufacture and preparation for consumption or export of jute and canvas bags, in Cuba. The application is made under a system of Industrial Introduction which has recently been introduced by the Cuban Constitution. Under this new system, organisations in a position to provide guarantees of financial and productive capacity are given many forms of assistance including Customs concessions.

Imports of bags are relatively unimportant, having comprised the following items in 1939; 54,647 pounds of seamless cotton bags and 113,937 of other cotton bags, valued at $10,495 and $18,999 respectively, and bags or sacks of hemp, linen or jute, valued at $127,429. Exports of cotton and jute bags were valued at $243,000 in 1939, compared with only $57,000 in 1938.

U. K. Jute Markets

SCARCITY OF RAW JUTE

THE U. K. correspondent of *Capital* writes in his report dated December 11, 1940 that the improvement in demand for jute yarns and cloth of Dundee make has continued apace and spinners and manufacturers are overwhelmed with inquiries for supplies for delivery as early as can be given. Very high prices are being paid for anything available, but sellers are practically committed now for some months ahead and they are not inclined to sell further. There are keen buyers of raw jute, but there is a remarkable scarcity of offers from Calcutta, agents of sellers giving out here that their principals are not willing to offer until they can actually book the freight. Buyers here, however, would be inclined to purchase for shipment as soon as freight becomes available, no matter when the jute arrived here. Judging by the present demand for yarns and cloth in Dundee, spinners there would be pleased to receive their full quota of the fibre and there is every likelihood that the Government will place sufficient shipping space at the disposal of the industry, which, according to the nature and dimensions of the Government orders recently placed with Dundee manufacturers, is absolutely essential for the prosecution of the war. All kinds of bags are required for the storage of foodstuffs in the various parts of the country and the needs of the home trade are magnified to a great extent, while export is being more or less maintained.

Buyers of hessian yarns have themselves put up the prices by offering to pay practically any price so long as they can secure supplies. Common 8 ℔. cops have been advanced to 4s. 6d. and 8 ℔. spools to 4s. 7d. paid, and now sellers are refusing to quote. The Jute Controller, Mr. Harold S. Sharp, intimated at a meeting of the trade the other day that he would release the jute, which he has bought against an emergency, to any spinner who does not hold sufficient to enable him to meet his commitments in yarns for delivery to the end of January. The price he has fixed is on the basis of £37 for Native Daisee—2/3. Most spinners, however, will probably have jute to fulfil their requirements for that period and the price to be fixed against further sales by the Controller will depend upon the rates ruling for yarns and cloth when he gives spinners permission to sell for delivery by the end of March. It is understood that the next intimation of release of raw material will be made about the middle of January. The present rate of £37 is very reasonable compared with 4s. 6d. for common 8 ℔. cops, which is approximately £61 5s. nett for the yarn. Spinners maintain that the cost of spinning has nearly doubled since the war began, but it could safely be placed at £15 per ton, or, with the price of the raw material at £52 per ton, a visible profit of £9 5s. per ton. Unfortunately for the spinner, however, all profits over those made during the year prior to the commencement of the war, go to the Government. This is considered to be most unfair and may call for some reconsideration on the part of the Chancellor of the Exchequer.

Twist is advanced to 6⅝d. for 3 ply 8 ℔, and sacking yarns are up to 5¼d. for 24 ℔. weft and 6⅝d. for 8 ℔. chains, while Rove is quoted at £34 for 48 ℔. and £27 for 200 ℔.

Prices for jute cloth are also up considerably at 5¼d. for 10½ oz. 40 ins. and 6d. for 10 oz. and 4⅓d. for 8 oz., giving a return of approximately £74 15s. nett for the cloth. If the manufacturer pays the nett price of £61 5s. for his yarn, this leaves him only £13 10s. for weaving, less than the actual cost, estimated to be now about £16 at least. If he is making money at all, it will be on his previous purchases of yarns which were bought at anything from 2s. 10d. for cops. Good sales were made at round about 3s. 0d. or at £40.10s. nett.

Prices for raw jute for shipment have advanced a little, sales being reported at £25 12s. 6d. for full group Daisee—2/3 and £29 10s. for good marks. White jute is entirely nominal.

Jute Import Restriction in U. K.

MORE BUSINESS FOR INDIAN MILLS ?

ACCORDING to a notice published in the *Board of Trade Journal* dated November 21, 1940 a figure for the total quantity of jute goods to be imported into the United Kingdom has been fixed after consulation with the Government of India, and this quantity will be reviewed from time to time. In general, licences for importation will be allocated to importers in proportion to their actual imports during the nine months October, 1939 to June, 1940. In future the import licence for jute manufactures will be issued on the advice of the Jute Controller, who will be assisted in adjudicating upon such matters by an Assistant Controller who has been specially selected for his knowledge of the import trade.

Licences to import jute goods for the use of the Cement Industry, however, will be issued in addition to the quotas so ascertained, and importers who have received orders from cement manufacturers should submit separate applications after consulation with the Cement Makers' Federation. Licences to import jute goods for re-export will also be issued in addition to the importers' normal quotas.

According to the *Economist* of November 30, 1940 the British Government is considering the question of curtailing shipments of raw jute from Calcutta to the United Kingdom and having the goods manufactured in India from where they could be shipped to users throughout the world. This would of course have a serious effect on the Dundee jute industry.

Export Drive in Textiles

NEW ORGANISATIONS SET UP IN U. K.

IN the previous issues of this *Bulletin* news regarding the the attempts of the Indian Central Cotton Committee to get rid of the surplus stock and the endeavours of the Bengal Government to save the jute industry from the slump due to a huge surplus stock have been published in detail. In this connection it may be interesting to know the actions taken by the British Government to save the textile industries of the United Kingdom from a similar fate.

According to the *Economist* of November 2, 1940, efforts are being made to increase British exports of cotton, wool and rayon. The cotton industry has appointed Mr. J. C. Belle to control the Cotton Board's colour, design and style centre set up some weeks ago. Mr. Belle considers that colour and design are sales factors, and it should be possible to assist the trade both by helping manufacturers to produce the types of goods required by overseas buyers and by creating a demand for new lines by organising exhibitions in various parts of the world. Particular attention is to be paid to the American market. In the rayon trade a new organisation, Central Rayon Office, Limited, has been formed to intensify the export drive which has already begun. It will not be a trading concern, but will make contracts and arrange contracts abroad, undertake market research and, if necessary, give financial assistance in establishing a market. This new concern is to be financed by a voluntary levy of 3d. per lb. on rayon yarn production which will provide an annual income of over £1 million. News from the wool industry is not so precise as from the other two, but it is expected that the National Wool Export Corporation will shortly be formed to increase the export of Bradford wools and worsteds. The annual income of this company, about £50,000, will be raised by a levy on raw wool and will all be used for investigating the problems of the wool trade and encouraging exports. This company will not give financial help to exporters though it is thought that the Bradford Type Cloth Sub-Group formed under the export group scheme, may be willing to do so. The National Wool Export Corporation is likely to work chiefly in the United States, Canadian and Argentine markets, but the Bradford Sub-Group is to concentrate on the Dutch East Indies which have no woolen market of their own.

Jute and Substitutes

INDEX NUMBER OF MID-MONTHLY PRICES

THE following index numbers of prices have been prepared from figures published in the *Daily Mill Stock Reporter* of New York. They only show variations of prices as compared with the base period.

(Base: August, 1939 = 100)

Commodity	Oct. 1940	Nov. 1940	Dec. 1940	Jan. 1941	Jan. 1940	Jan. 1939
JUTE, RAW :						
Native Firsts ...	104	104	107	109	222	96
MANILA HEMP :						
Davao F ...	129	161	136	132	144	98
Davao G ...	150	182	143	139	148	109
SISAL :						
Java A ...	85	85	85	85	129	100
African ...	138	138	138	138	135	103
ISTLE :						
Palma ...	100	100	100	100	158	100
Tula No. 1 ...	111	109	109	109	122	100
BURLAP :						
8 oz. × 40″ ...	130	137	142	144	170	95
10 oz. × 40″ ...	134	140	149	153	172	92
10 oz. × 36″ ...	160	170	175	180	225	113
OSNABURG :						
36″, 2·85 ...	111	116	121	121	126	...*
40″, 2·05 ...	121	122	129	129	131	95
KRAFT PAPER :						
No. 1 ...	179	179	179	179	126	100

* Not available.

Chile Restricts Imports of Jute Bags

PROTECTION OF LOCAL FACTORIES

ACCORDING to a report of the Commercial Councillor to H. M. Embassy at Santiago, dated November 13, 1940 the decree No. 1437, dated September 12, and published in the *Chilean Official Journal* of November 7, fixes at 4,700,000 bags the quantity of jute bags which may be imported under the quota year instituted in 1938. The decree also provides that the preference in the allocation of quotas is to be granted to direct consumers. Firms who are granted quotas are compelled also to purchase national bags and to supply their clients with national and imported bags in proportion to the extent of the quota which has been granted to them, in accordance with rules which are to be laid down by the Under-Secretariate of Commerce.

Decree No. 794, dated May 16, but only published in the *Chilean Official Journal* of November 9, 1940, fixes at 217,000 gross kilogrammes the quota of jute sacking which may be imported during the period April 1, to September 30, 1940.

The maximum quota for the period October 1, 1940, to March 31, 1941, is fixed in this decree at 350,000 gross kilogrammes. The affective quota which will in fact be authorised is, however, only to be the difference between this maximum quota and the amount of jute sacking produced by Chilean factories during the preceding period of 6 months.

These measures are being taken to protect the local bag industry. The bags manufactured by the local factories are costlier than imported bags though raw jute is duty-free and imported bags pay a duty of 0·27 pesos per kilo.

Distribution of Jute & Flax in Japan

CONTROL BY GOVT.

ACCORDING to the *Jute Review* of November, 1940 the Japanese Minister for Agriculture and Forestry has established a new company, the Japan Hemp Co., which will in future control the distribution of all jute, flax, hemp and ramie to spinners and weavers in Japan.

The new company will have a capital of 5 million yen, half of which has been raised from the co-operative societies and half from the importers of these raw materials.

The company will purchase immediately all the jute, flax, hemp and ramie grown in Japan and all existing stocks of these materials which have been imported into Japan and not yet disposed of.

The new combine will then distribute the stocks of material to local spinners and weavers at uniform prices, thus cutting out all competition between these firms. There has been a big demand for hemp during the early part of this year and in March, hemp production amounted to no less than 6,250,000 yen, which was some 92% more than was manufactured in February of the same year. It is thought that this distribution control and a uniform price will ensure an equal production of all manufactures of jute, flax, hemp and ramie.

A New Flax Substitute

The discovery of a fabric that takes the place of flax in the making of convas for such articles as water tanks, wagon covers and tenting has been recently announced in England, according to "Capital." The discovery is the work of the experts of the British Cotton Industry Research Association, and samples are already on view. Flax is scarce, and previously cotton canvas had been regarded as only a cheap and inferior substitute. Sir Robert Pickard, Director of research, has announced that the new fabric, made from Egyptian Upper cotton, has equalled the flax cloth in almost every respect, and that, though it is a war-time alternative, it has peace-time possibilities. It costs no more than peace-time flax products.

Rot-Proofing of Sandbags

A CHEAP AND EASY METHOD

ACCORDING to the *Chemistry and Industry* of December 14, 1940, the Imperial Chemical Industries have developed a cheap and easy method of rot-proofing sandbags. Bags filled with sand or soil and exposed to the weather are particularly liable to be attacked by the micro-organisms that cause rotting, and may in a few weeks become as much a danger as a measure of protection. The announcement of a remedy is therefore of the first importance, especially since the treatment is extremely cheap and simple. It consists of dipping the bags in two common chemicals, sodium carbonate and copper sulphate. Treatment with this mixture at the present price works out at no more than one-tenth of a penny per bag of normal size. It will, it is estimated, increase the life of sandbags in service at least eight times.

The bags must be treated before they are filled. No rot-proofing process is satisfactory when applied to bags already in place. Whether they are treated before or after being sewn up, particular care must be taken to treat the thread used for the seams as it is often here that the rotting begins.

DRASTIC TESTS

During the research into the rot-proofing of sandbags that I. C. I. have carried out over the past two years, samples of treated and untreated jute and cotton fabrics have been buried in garden soil for eight months. The fabric treated with the mixture remained in excellent condition while the untreated fabric was almost completely disintegrated.

Equally good results were obtained with solutions of copper sulphate and soda used separately. It is obviously simpler to use the one-bath process, but in treating compact and tightly woven materials, or sandbags in compressed bales, it may be preferable to use successive immersions of copper sulphate and soda ash or washing soda. It is the copper which gives the resistance to rotting, and both these simple processes have been proved to give just as good results as the use of more expensive copper products.

THE TREATMENT

The mixture used for the rot-proofing of sandbags is technically known as a basic copper carbonate suspension. Use 4½ lb. of soda ash or 11½ lb. of soda crystals in 5 gallons of water and stir this slowly into a solution of 10 lb. of copper sulphate crystals in 30 gallons of water. Use a 50-gallon wooden vessel—not one of iron or galvanized iron. Make up the quantity to 40 gallons and add 2 oz. of Calsolene Oil HS. (Calsolene Oil HS is a "wetting agent". It assists the penetration of the fabric and adds very little to the cost.) Stir well. Immerse the sandbags until they are thoroughly saturated. Remove the excess liquor by wringing or in a hydroextractor. After wringing the bags should weigh twice their original weight. The bags should then be dried at a low temperature. Bags should be immersed for at least 5 minutes if cold water is used, but the process can be speeded up by warming the water to 30°—40° C. (85°—100° F.).

Jute Sheeting for wagon Covers

Replying in the House of Commons on November 21, 1940, to a question on jute wagon sheets by Mr. Davidson, the Minister of Transport said that a special method of proofing jute canvas had been developed and limited quantities were being used for wagon sheeting as a temporary expedient. Other more suitable, substitutes for flax sheetinge, such as cotton ducks were, however, becoming increasingly available.

Further particulars, including directions for the "two-bath process," can be obtained from Imperial Chemical Industries, Ltd.

Preparing Jute as Flax Substitute

POSSIBILITIES OF "CELIN"

THE following article by Mr. Clifford Carter on the possibilities of substitution of flax by jute appeared in the November issue of the *Jute Review* :—

It is barely a century since Scottish flax spinners commenced to work jute on a commercial scale. Due to its comparative coarseness and different physical characteristics this Indian fibre proved rather intractable until methods of batching were evolved and flax machinery was modified to deal with the harsher fibre. Dundee, however, persevered, and, as the great jute industry developed, many Scots spinners switched over from flax to jute fibre. Now, a century later, the linen industry is experiencing an acute shortage of raw material as the flax spinning mills of Northern Scotland and Ireland depended upon the Continent for over ninety per cent. of their supply. Some three years ago Russia, the world's largest flax producer, ceased to export this aristocrat of fibres.

This year other sources of supply such as Belgium and Germany were cut off and the Baltic flax states of Estonia, Latvia and Lithuania came under the Soviet regime. The Irish and Scotish linen industries consume annually a huge tonnage of flax and tow, and it will take some years to replace Continental fibre with that produced at home and within the British Empire. Thus, by a strange turn of Fortune's wheel, flax spinners are again considering the merits of jute, virtually an Empire monopoly and available in almost unlimited quantities.

For the past seven years Mr. W. E. Shooter and Mr. Alexander Morrow, proprietors of the Woodburn Dyeing & Finishing Co., Ltd., Carrickfergus, Northern Ireland, have specialised in the bleaching of jute and jute union yarns to three-quarter white. In the course of research they conceived the idea that it should be possible to produce a fibre cheaper than flax, which could be spun, woven and finished on orthodox linen machinery. Their aim, which they now claim to have realised, was not to supersede or to compete with flax, but to enable flax spinners and linen manufacturers to produce cheap yarns and fabrics of the coarser kind and thus defy cotton trade competition.

Messrs. Shooter and Morrow have patented their process, which is now working on a bulk basis after some three years of careful tests. Their patent relates to "the improvement of vegetable fibres, especially of the best group." The object of their invention is "to remove pectin and lignin without injury to the celliferous elements or ultimate fibres, thus rendering the fibre more sensitive to bleaching, dyeing and the like and reducing to a negligible degree the possibility of decomposition from bacterial attack or mildew." Using selected jute as a base they have produced a product, sold under the brand name of "Celin," which appears to have very interesting possibilities. It is selling at £65 per ton nett, delivered Belfast, a competitive figure under today's conditions.

Jute is not subject to control and supplies are practically unlimited. Its conversion into "Celin" is performed by chemical means in a series of tank treatments which take only a few days. Subsequently it is "rolled" to the required degree of softness, dried and ready for delivery to the flax spinning mill. Here it is cut or broken owing to its long length (six to seven feet) and is then ready for preparing and spinning on orthodox flax machinery. No batching is necessary, as the process is so designed that ample natural lubricant or spinning quality is left in the fibre. Moreover, it is claimed that both "Celin" and its products are free from the characteristic odour of jute and its tendency to rot. An interesting new property, which the process gives the fibre, is that it enhances its absorption of moisture by at least two thirds.

"Celin" gives a good yield in the mill. A parcel of 2 cwt. of "tops" will yield around 110 lb. of dressed line, the balance being tow. From this "Celin" machine tow there will be only some 10% of waste in carding. " Celin " card tow, incidentally, is as soft as wool and tests have shown that it may be spun successfully on worsted machinery.

" Celin " can be spun with certainty up to 20's lea on flax line machinery, but above that count a mixture with flax is desirable. I was shown some (100%) " Celin " line yarns which tested from 45 to 50 ozs. and a (100%) " Celin " tow yarn which tested 40 ozs.

A mix of 50% " Celin " tow and 50% Courtrai rescutched gave an 80% yield of card sliver. Spun to 16's, 18's and 22's lea, these yarns gave strength test of 56¼ ozs., 48⅓ ozs. and 38 ozs. respectively.

Features of " Celin " yarns which were demonstrated to me, were their levelness in grist and strength, their high regain and the facility with which they may be bleached or dyed. Higher leas than 16's, the inventors advise, should be used for weft only.

" Celin " mixed tow yarns have been spun up to 25's lea, in proportions of 50% " Celin " tow and 50% flax tow. Yarns up to 60's lea (linen count) have been produced from a mix of 75% flax tow and 25% " Celin " tops. Pure or mixed " Celin " yarns may be bleached with ease to three-quarters white.

In the bleaching of " Celin " yarn or cloth no pre-boiling or scouring is necesssary, the yarn or fabric being put straight into the bleaching solution after merely wetting out in cold water, and chemicking by any of the usual methods without boiling.

Owing to the high absorption property of " Celin", a lesser quantity of dyestuff is required to attain a given colour. The penetration of the dye is excellent and very level colours are the rule. These claims are quickly proved by testing a hand sample.

Already "Celin" weft has been successfully used in the production of practically all classes of domestic goods, such as types, checks, etc. Pure "Celin" warp and weft have been used in the production of canvas, and these goods have been approved by Government departments. They are superior, it is claimed, to the new union fabrics evolved in India by the cotton and jute industries as a substitute for flax canvas, and of which some three million yards have already been produced.

I was particularly interested in a coloured bordered towel, made from a "Celin" union weft and a pure "Celin" warp, which was in perfect condition after 150 washings. Messrs. Shooter and Morrow, sole originators and proprietors of "Celin", are confident that this fibre will have many uses in peacetime as well as wartime and will prove a boon to the coarse end of the linen industry. The progress of this new Ulster flax substitute will be watched with keen interest and merits thorough investigation by all in the trade.

I am informed that some Ulster spinners are now open to submit samples and supply "Celin" yarn in bulk. The inventors also claim to have evolved a modified process for "Celanising" all types of hemp, notably the Indian variety.

New use for Jute Canvas

A SUGGESTION

THE following suggestion for increased use of jute canvas has been published in the *Jute Review* of November, 1940 :—

Although this may not be the time to publish these new suggestions for the use of canvas, we do so because we know the time will come when they will be required. This time we are introducing you to the canvas grass catcher for fitting to lawn mowers. These are usually of metal and very heavy and cumbersome. They could easily be replaced by a canvas catcher fitted to a metal frame. There is no doubt that many hundreds of sales are awaiting a properly constructed carrier of this kind. The garden has always been a profitable medium for sales of canvas goods and there is no reason why it should not be better exploited. At this time of the year, when there are such accumulations of leaves to be cleared up there would be a good sale for suitable containers that could be carried and emptied easily and which would store away for future use. A combination of the former suggestion with the latter would prove the best seller.

Jute in Felt Production

According to an article published in the Silk J. Rayon World the thermoplastic fibres, such as Vinyon can be utilised to produce felts from mixture with other fibres such as glass asbestos, wool, hair, Jute, cotton and rayon. By varying the percentage a range of products from soft wadding-like insulating materials to hard flexible tiling may be produced. Filter press cloths containing fairly high percentage of Vinyon are resistant to acids and alkalies and their filtration efficiency is about 40 per cent better than that of cotton or wool cloths. The cloths are also recommended for air filtration.

Increased use of Caroa

BRAZIL EXPLOITS JUTE SUBSTITUTE

ACCORDING to the *Jute Review* of November, 1940, the natives in the State of Pernambuco, Brazil, South America, have been making strings and ropes with fibres of an uncultivated plant found in that State for a number of years. The fibre is called Caroa. Recently it was thought that the industrial development of this fibre could be increased and accordingly it was introduced into the textile mills of the country where it has been gradually developed until fine cloth suitable for using in the manufacture of suits has been made. In general appearance these suits resemble a coarse linen.

Caroa is a wild plant, and so far little effort has been spent in planting and improving the seeds for cultivation. Like many other raw materials used in industries in the northern part of Brazil, it is still not cultivated.

Primarily employed as a substitute for jute, its use has been increasing constantly, either alone, or with jute and linen. It is like fine clean jute and at the same time it resembles flax.

Two large mills in the State of Pernambuco are working exclusively with caroa. They used to employ jute. The preparation of this fibre is still to be improved by the use of better separating machines and a faster process of cleaning. This year the production is running into more than 1 million dollars of raw fibre, and so many workers have gone into the caroa districts of Pernambuco to work that there is a shortage of labour in many sugar mills on the coast.

At present no special looms or spining machines are employed for caroa. Identical machines as employed in cotton and jute mills are being used.

At a recent meeting of jute weaving mills in the State of Pernambuco it was decided to employ not less than 75 per cent of caroa in all their textiles.

During 1938 Brazil imported 26,729 long tons of jute fibres from India, valued at over 3 million dollars. 'It is believed that for 1940 total importations will not exceed 1 million dollars. In the City of Rio Branco, the centre of the caroa growing district, the Government has recently established an experimental station for fostering the growth and exploitation of caroa.

The Governor of the State has sent a request to the Federal Government of Brazil asking for a law to oblige all jute mills in Brazil to consume at least 25 per cent of caroa in their coffee bag production, which is the principal jute manufacture.

It is believed that when proper machinery is employed for the improvement of the fibre, it will also replace linen to a great extent.

USE OF JUTE SUBSTITUTE COMPULSORY

An air-mail message from the correspondent of *Jute Review* informs that a resolution was passed by the Brazilian Commission for the Defence of National Economy and approved by the President on August 20, requiring that factories producing jute cloth mix a minimum of 10 per cent of national fibres with the jute. Cordage factories are required to use 100 per cent caroa in place of imported jute, in the manufacture of gummed string and 100 per cent of caroa or other national fibres in all non-specified products previously made from imported jute. It is also required that cordage heretofore manufactured from national or imported sisal must contain 25 per cent caroa.

The resolution also provides that the price of national fibres utilized in compliance with the regulations shall not exceed the price of similar imported fibres and that the importation of all products manufactured from jute or sisal is now subject to special authorization by the Commission. The measure was designed to foster production and utilization of domestic fibres, especially caroa, which can be most easily substituted for jute and sisal. Its passage was prompted by the increased cost of jute resulting from the war, uncertainty of supplies, and a desire to conserve foreign exchange.

Sisal Problems

GOVT. ASSISTANCE SOUGHT

ACCORDING to *The Statist* of November 23, 1940, Government assistance designed to mitigate the effects of loss of normal markets is being sought by East African sisal growers. The root problem facing the East African industry is that of finding compensation for the loss of continental markets. The annual crop in East Africa is in the region of 130,000 tons and of this France had been accustomed to taking as much as 30,000 tons. The events of June thus deprived the industry of a customer which normally absorbed a very substantial proportion of the annual output. This blow has only been mitigated in a small way by increased consumption in the United Kingdom and in the Americas. The plan which at present holds the field looks to the British authorities to purchase 100,000 tons of sisal. That would entail the Government's accepting responsibility for storing the goodly surplus which would remain after the satisfaction of the requirements of the Ministry of Supply and the civilian trade. It is, therefore, not surprising that the scheme should have been linked with a plan for restriction of world sisal output. Indeed, its adoption depends in great measure upon such an agreement between the main producers. These are East Africa, the Netherlands East Indies and Mexico. Incidentally, the United States is such a large user of Mexican sisal and is, besides, concerned with the problem of manila hemp, that the American Government and the British Government may be bracketed together as interested fourth parties. There is, apparently, no prospect of an early settlement of the restriction question. Until the various interests are harmonised the plan to give aid to the East African growers must necessarily hang fire. Now, of course, it remains to be seen whether a large-scale purchase by the British Government, assuming the project to go through, would be undertaken around the present price of approximately £26 a ton.

SISAL'S DIFFICULTIES

The East African sisal trade has been severely affected by war conditions. During the past ten years East Africa's production has almost doubled, and in 1938 it amounted to 130,000 tons. The United Kingdom is the only large market left open to the plantations in Kenya and Tanganyika, for the United States consumes chiefly Mexican sisal (Henequen) and Japan prefers manila hemp. The European mainland, which absorbed about 135,000 tons of sisal from all sources in 1938, is, of course, cut off by the British blockade. In 1938 Great Britain absorbed 26 per cent of East Africa's shipments of sisal, her share amounting to 35,000 tons. While the British Government's intention to purchase 100,000 tons of sisal from Kenya, Uganda and Tanganyika is of great importance since this purchase will absorb the greater part of the material at present available, it may not be possible to repeat it, since it amounts to more than the United Kingdom's requirements. Sisal requires four or five years to mature in East Africa, and cannot therefore, be easily regulated to current demand. In the past five years the area under sisal in British East Africa has substantially increased, and growers may be faced by many difficulties so long as European markets are denied to them.

Crop Failures Diagnosed Free

OFFER OF ROTHAMSTED EXPERIMENTAL STATION

AN English scientific laboratory offers Empire farmers a unique service without charge.

According to *Capital* any farmer in the Empire can now post to Rothamsted Experimental Station, Harpenden, England, specimens of a crop failure for examination. In due course he will receive a report indicating with mathematical precision the chemical deficiencies that resulted in failure.

Experiments have proved that failure is often due to the presence or absence of minor elements of the soil, some good for growth, some bad.

For example, a lack of minute amounts of boron has been found to produce the swede and turnip disease known as "brown heart" in Canada and "mottle heart" in New Zealand. In South Australia a disease like "grey speck" has affected barley crops deficient in manganese.

Plants sent to Rothamsted for diagnosis are burned and the ash is made incandescent. The spectroscope then records photographically the chemical constituents of the ash. These photographs reveal the presence or absence of minor elements that assist or retard healthy growth.

From the report, which comes back to him the farmer will know what steps he must take to rectify the condition of his soil.

Monthly Notes on Progress of Schemes

THE following is a short review to indicate the progress of the various Schemes of Work of the Indian Central Jute Committee since the publication of the last issue of the Bulletin :—

Administration

Secretary visited Brahmanbaria and Kishoreganj between the 1st and the 3rd March. Accompanied by the Director, Jute Research Laboratories, he proceeded to Konda, a village about fifteen miles away from Brahmanbaria, to inspect and negotiate about the land necessary for the proposed Agricultural Research Sub-station there. Some difficulty had been experienced about this station, and it had been apprehended some time ago that it might not be possible to open this research station in the coming year. These difficulties were, however, overcome on the spot and other preliminaries in connection with the establishment, including accommodation for the office and the staff were settled. Similar arrangements were also made at Kishoreganj. Accordingly it is now expected that both these Research Stations will be established with effect from the 1st April, 1941.

Information has been received from the Government of India that they have provided a sum of Rs. 1,95,000 for expenditure on the extension of the Technological Research activities of the Indian Central Jute Committee in their budget for the year 1941-42. A meeting of the local Sub-Committee is expected to be held at the end of March to consider the detailed estimates of the Scheme. All necessary action on the various recommendations and decisions of the Committee reached at its meeting held in January, 1941, has now been taken.

The Accounts Section has been working at high pressure to clear the payments of all bills before the close of the current financial year.

Marketing and Transport

Considerable progress has been made in revising the first draft of the Second Marketing Report in the light of comments and suggestions noted in their copies by members of the Publications Sub-Committee. This work is well advanced.

Mr. Low prepared draft notes covering details of the working of developmental marketing scheme approved by the Committee at its Ninth General Meeting.

S. M. O. ON WAR SERVICE

In view of the Senior Marketing Officer's impending departure to take up duties with the Royal Indian Naval Volunteer Reserve, he has prepared a note allocating the work of the Section during his absence. This has been discussed with the Secretary and M. O. (Dr. Husain) and notes on methods to be employed in operating the various schemes have been left with the latter.

Agricultural Research

During the 1940 season three *capsularis* varieties were grown at Dacca, Rangpur and Faridpur Farms. Similarly three *olitorius* varieties were grown at Dacca, Chinsurah, Berhampore and Pabna Farms. The primary object of these trials has been to study the influence of varieties, climatic conditions and retting waters on quality of fibre. Pending the examination of the fibre samples at the Technological Research Laboratories, the following yield records are of interest :—

TABLE

	Varieties			Statistical conclusion
	D. 154 A	D. 386 B	Fanduk C	
Dacca Station				
Fibre yield lb. per acre	1621	1659	1212	B=A>C
Fibre per cent. ...	6·3	6·6	6·0	B>A>C
Mean height per plant in feet ...	8·0	8·4	7·1	B=A>C
Rangpur Station				
Fibre yield lb. per acre	1376	1444	1116	B=A>C
Fibre per cent. ...	7·6	6·7	6·5	A>B=C
Mean height per plant in feet ...	9·5	9·6	8·6	B=A>C
Faridpur Station				
Fibre yield lb. per acre	1385	1512	1030	B=A>C
Fibre per cent. ...	5·0	5·7	3·8	B=A>C
Mean height per plant in feet ...	7·6	7·4	7·4	A=B=C

	Varieties			Statistical conclusion
	Chinsurah Green A	R. 26 B	Local C	
Dacca Station				
Fibre yield lb. per acre	1226	1018	1082	A>B=C
Fibre per cent. ...	5·4	5·4	4·9	A=B>C
Mean height per plant in feet ...	8·5	8·6	8·1	B=A>C
Chinsurah Station				
Fibre yield lb. per acre	2305	2183	2152	A>B=C
Fibre per cent. ...	5·3	5·0	5·0	A=B=C
Mean height per plant in feet ...	11·9	12·5	11·9	B>A=C
Berhampore Station				
Fibre yield lb. per acre	1879	1701	1570	A>B>C
Fibre per cent. ...	7·1	6·9	6·7	A=B ; B=C, A<C
Mean height per plant in feet ...	10·6	9·7	9·7	A>B=C
Pabna Station				
Fibre yield lb. per acre	2403	2319	2323	A=B=C
Fibre per cent. ...	6·54	6·51	5·95	B=A>C
Mean height per plant in feet ...	10·7	10·5	9·9	A=B>C

From the foregoing data it is clear that the variety ***Fanduk*** is definitely a poor yielder, on account of its shorter growth period and lower fibre content. Though the variety ***D. 586***, outyielded the standard ***D. 154***, the differences are not statistically valid. In the ***olitorius*** group, in general, the local varieties proved inferior in point of yield, height of plants and fibre content. The variety ***R. 26*** does not hold out any promise as it is not better in yield than the standard variety ***Chinsurah Green.***

The fibre produced in these trials was examined for apion damage. The attack of apion weevil causes knotty fibre. The following figures show that (1) *capsularis* is more susceptible to apion damage than the *olitorius*, (2) the apion attack varies from place to place, (3) certain varieties are somewhat more resistant than the others, (4) perhaps in purely *olitorius* tracts the population of apion is lower than in the areas such as Dacca where both *olitorius* and *capsularis* are grown.

Station	Chinsurah Green	R. 26.	Local
PABNA			
Per cent of attacked plants ...	17·33	26·00	17·33
Average number of 'knots' in damaged plants ...	1·15	1·05	1·07
BERHAMPORE			
Per cent of attacked plants ...	7·33	10 66	6·06
Average number of 'knots' in damaged plants ...	1·00	1·00	1·00
CHINSURAH			
Per cent of attacked plants ...	12·66	10·66	12·00
Average number of 'knots' in damaged plants ...	1·09	1·00	1·00
DACCA			
Per cent. of attacked plants ...	45·33	66·00	31·33
Average number of 'knots' in damaged plants ...	1·45	1·52	1·21
	D. 154	*D. 386*	*Fanduk*
DACCA			
Per cent of attacked plants ...	80·66	83·33	80·60
Average no. of 'knots' in damaged plants	1·90	2·13	1·97
RANGPUR			
Per cent of attacked plants ...	96·00	93·33	97·33
Average no. 'knots' in damaged plants	5·34	4·80	4·63
FARIDPUR			
Per cent of attacked plants ...	71·33	69·33	66·00
Average no. of 'knots' in damaged plants	2·17	1·59	1·39

Technological Research

Only some eighteen samples of the 1940 crop received for test from Dacca now remain to be spun. These will be finished shortly and the testing of the commercial qualities which have been collected will be taken up again.

The following data extracted from the test-results on the various samples of commercial yarns which have been tested so far (mainly from mills in the Calcutta area) will be of interest. The breaking loads are for 30″ test-length on a good brand machine with 12 in. per minute traverse of lower clamp. R. H. 75%. A full statement is being prepared for publication.

Hessian Warp. Twenty samples from various mills. Mean values and range :—

Grist	8·48 lb, per spindle	7·9 to 9·6
Breaking Load	7·20 lb.	6·1 to 8·7
Quality Ratio	84·9	70·5 to 103·2
Turns per inch	4·0	3·25 to 4·4
Twist Constant	11·6	8·9 to 13·5
Weight C. V.%	28.4	21·5 to 34.7

Hessian Weft. Twenty-six samples. Mean values and range :—

Grist	10·56	8·6 to 14·8
Breaking Load	8·42 lb.	5·7 to 14·0
Quality Ratio	79·9	65 to 98
Turns per inch	3·3	2·7 to 3.9
Twist Constant	10.6	8·6 to 13·2
Weight C. V. %	29·2	20·8 to 39·2

Sacking Warp. Sixteen samples. Mean values and range :—

Grist	9·9	9·0 to 12·8
Breaking load	7.4 lb.	6·1 to 11·3
Quality Ratio	74·4	64 to 84
Turns per inch	3·8	3·3 to 4.4
Twist Constant	11·9	10·2 to 13·8
Weight C. V. %	29.8	24·1 to 41·6

Sacking Weft. (up to 35 lb.) Twenty-three samples. Mean values and range :—

Grist	31·3	...	27 to 34.7
Breaking load	13·73 lb.	...	11·1 to 16.5
Quality Ratio	43.9	...	38 to 54
Turns per inch	2.51	...	2·2 to 3·0
Twist Constant	13.9	...	11·6 to 15·6
Weight C. V. %	41·2	...	30 to 55

Sacking Weft. (above 35 lb.) Eight samples. Mean values and range :—

Grist	42·44	...	36 to 58
Breaking load	18·4 lb.	...	14·2 to 24·4
Quality Ratio	43·4	...	39 to 46
Turns per inch	2·26	...	1·7 to 2·7
Twist Constant	14·5	...	12 to 16·2
Weight C. V. %	41·7	...	32 to 57

Work on the examination of the physical characters of a range of samples of fibre on which spinning tests have been made continues and series of cuttings is being analysed to see how chemical composition links up with spinning trials on the same samples blended with a standard quality of long fibre.

Economic Research

The influence of hessian consumption in the U. S. A. on the monthly fluctuation of Calcutta prices of hessian has been studied. Calcutta quotations for 9 porter hessian only were taken into consideration. A lag of one month was introduced between price and consumption, the price of one month being assumed to be influenced by the U. S. consumption of the previous month. A straightforward correlation between price and consumption yielded no significant result. The consumption figures were then corrected for seasonal fluctuation and the corrected consumption was correlated with the ordinary price as well as with the deflated price. The co-efficients of correlation in both the cases were significant and practically of the same order.

An investigation into the seasonal fluctuations of Calcutta prices of pucca bales, 9 porter hessian and Heavy Cees has been undertaken. The investigation is based on data for ten years from 1929-30 to 1938-39. No pronounced seasonal variation has been noticed in the case of pucca bale prices. The seasonal fluctuations have also been found to be statistically insignificant. Investigation of the seasonal fluctuations in the other two cases is under progress.

The first draft of the report on 'World Consumption of Jute in 1938-39 & 1939-40' is being revised in the light of suggestions made by the Publications Sub-Committee.

Publicity

The draft of the Bengali version of the "Triennial Report" of the Committee has been revised and approved by the Secretary, and by the time the *Bulletin* goes to the press, the former will also be in the hands of the printers.

Preliminary steps regarding the conversion of the *Bulletin* into a priced publication with the issue of April next, are being taken.

The third and concluding instalment of the article on *Flax Fibre* dealing with its problems of manufacture, which was to have gone in this issue, has had regretfully to be held over at the last moment for the next issue.

A USEFUL PUBLICATION

In accordance with its policy the British-Continental Trade Press, the publishers of the London *Jute Review*, have as usual issued a handy "Jute Year-Book & Directory" for 1940, containing a wealth of information pertaining to the jute, canvas and linoleum industries and trade almost all over the world. The war certainly has affected its usual size, but certainly not the contents, which are as useful as ever. No available sources have been left untapped, and it is a matter of self-congratulation to us to note that the "Index Number of Calcutta Jute Prices" prepared by the Economic Research Section of this Committee and which is a monthly feature of the *Bulletin*, has also been utilised by the *Jute Year Book.*

Copies of the publication may be had of the publishers mentioned above, whose address is : Textile Exchange Buildings, 1-9, Ludgate Hill, London, E. C. 4.

RETIREMENT OF Mr. A. M. LIVINGSTONE

Mr. A. M. Livingstone, Agricultural Marketing Adviser to the Government of India, handed over charge of his office on Monday, March 17, and left for England the same day.

Mr. Livingstone has been in India for nearly seven years. He came to India in 1934 to take charge of the newly-created appointment of Agricultural Marketing Expert. In January 1935 the Agricultural Marketing Adviser's Office came into existence and Mr. Livingstone had held charge of this post ever since.